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**Potential For
OUTDOOR RECREATIONAL DEVELOPMENT**

STATE OF ARIZONA
PLANNING AND DEVELOPMENT
DISTRICT SIX

***Santa Cruz - Graham & Greenlee - Cochise
Counties***

Prepared by:
U.S. Department of Agriculture — Soil Conservation Service
Phoenix, Arizona
1968

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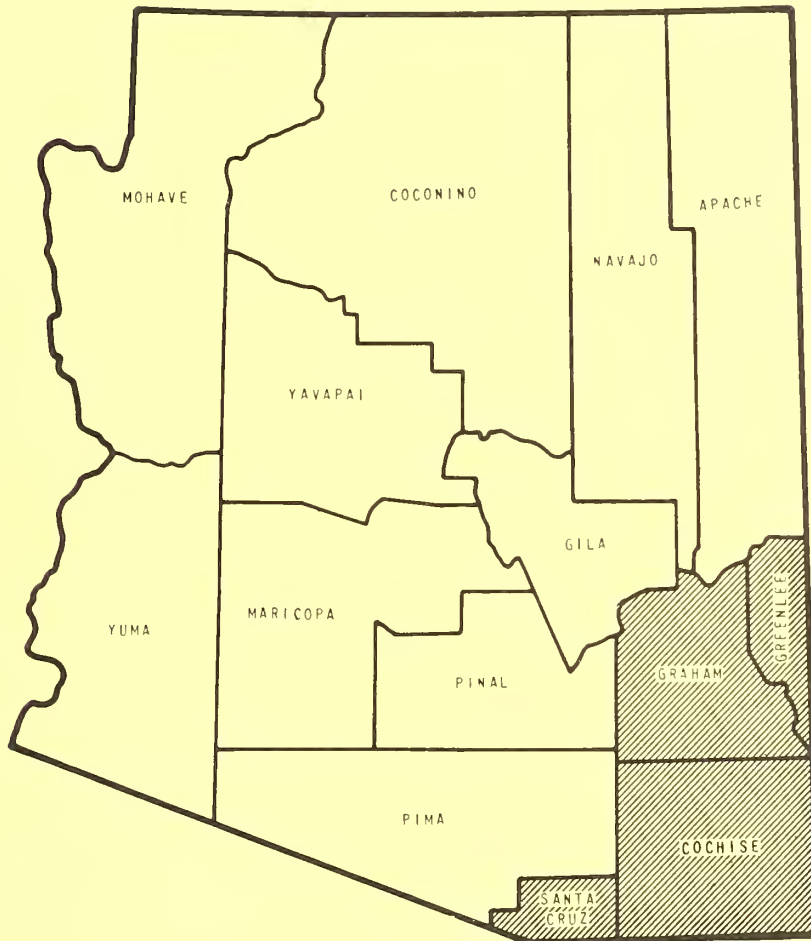
STATE OF ARIZONA
PLANNING AND DEVELOPMENT

DISTRICT SIX

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INTRODUCTION

Our nation is surging ahead in all areas of resource development. Nearly thirty years of continued economic growth have brought about rapid changes. Outdoor recreation is one of those areas which has made steady advancement in the last few years. A growing number of mobile people have more time and money to spend for recreational pursuits and as a result there has been quick development of facilities. Unfortunately, lack of long-range planning has sometimes resulted in unwise allocation of resources for development.

Appraising the potentials for outdoor recreational development is an essential step in the planning process. Cochise, Graham-Greenlee, and Santa Cruz county appraisals were prepared in 1968. A model prepared by the U. S. Department of Agriculture was used to make the appraisal. The study involved consideration of more than natural resources, since development potential depends upon people as well as facilities.

The appraisal in these counties is part of a nationwide effort to determine potentials available for outdoor recreational development. This is the thirteenth county to be studied in Arizona. Before the end of 1968, all counties in the state will have been appraised.

With this model, the potential for development was analyzed without respect as to whether or not newly developed facilities were currently needed, as additional demand or market survey must answer that question. The Bureau of Outdoor Recreation and the U. S. Department of Agriculture are currently developing that type of survey.

In addition to providing general information for effective development and natural resource utilization for outdoor recreation the appraisal has other uses, including:

- Improving long-range programs of soil conservation districts;

- Providing information for publicizing and promoting outdoor recreation in District 6;

- Providing information useful for local planning by county and federal governments, civic groups, and other interested agencies;

- Providing information useful to soil conservationists, resource specialists, extension agents and planning consultants in advising landowners, agricultural agency representatives, and others;

- Providing information for developing county and state recreation plans; and

- Serving as guidelines for more efficient and profitable use of certain natural resources, thereby improving the economic status of individual landowners and the community.

DEFINITIONS OF TERMS USED

Key Element - any condition or situation that exerts a major influence on the potential for developing any important kind of recreation areas or enterprise. Those that widely and commonly apply are: Climate; Scenery and Scenic Areas; Natural Areas; Historic Areas; Soils; Water (existing water areas and impoundment sites); Wildlife (habitat and populations); Populations of People (size and distribution, age and occupations, income levels); Proximity and Access; Rural Ownership and Land Use Pattern.

Limiting Factor - a key element that exerts such a negative influence on the potential for developing a kind of recreation area or enterprise that it imposes problems that are difficult or impossible to overcome. This condition may apply over the entire county or to only certain portions of it.

In the appraisal process, three terms are used in arriving at a numerical evaluation. They are:

Multiplier (M) - a number that represents the weighted importance of a particular key element in relation to other key elements. Key elements that are significantly more important than others are assigned a weight number of two or more.

Rating (R) - a number from zero to ten applied to a particular key element for a particular kind of recreation development. Zero means that the key element contributes nothing and ten means that it is ideal.

Score (S) - a number which is the result of multiplying the "multiplier" (weight number) by the "rating" for a particular key element in appraising potential for a particular kind of recreation development. The sum of the scores of all the key elements applying to a particular kind of recreation development gives the numerical score for that kind of development.

Recreation Area - any prescribed expanse of outdoor natural resources suitable for recreational use or used for that purpose, either developed or undeveloped.

Recreation Development - any kind of an outdoor area now used for recreation, or planned to be established, or expanded and improved for recreational use.

Recreation Enterprise - a recreation development operated by a entrepreneur for profit.

KEY ELEMENTS

Ten key elements with several subdivisions were used to evaluate potentials for outdoor recreation in District 6. These were applied in various combinations to each kind of recreation development. The multipliers used with each of the twelve kinds of recreation developments and their subdivisions are shown in the column for each key element. These were adjusted from the standard procedure where necessary to reflect their proper importance in District Six.

Each of these key elements is discussed below as used in these appraisals.

A. Climate

Climate, as it affects various recreation activities and enterprises, can be either a contributing element or limiting factor.

Seasonal temperatures, precipitation patterns, sunshine and snowfall were considered. Climate was appraised, in part, relative to that from where the recreationists are expected to come.

Generally, the climate in these counties is favorable for most types of outdoor recreation on nearly a year-round basis.

B. Scenery and Scenic Areas

Attractiveness of the general surroundings affects the potential for many kinds of outdoor recreation. The natural qualities of the environment -- topography, vegetation, wildlife, geologic formations -- are the major elements. Man-made improvements or destruction -- water impoundments, landscaping, gully erosion -- may be important. For some purposes, scenery was appraised relative to that of the areas from where the majority of the recreationists come.

An inventory of scenic areas was made for each county. Each significant site or area of superior, distinctive, unusual or unique scenery that is not adequately developed for public use was named, described and classified. This table is combined in Appendix A with Historic and Natural Areas for each county.

C. Natural Areas

Areas of distinctive natural environment that are not badly influenced by urbanization, farming, mining or other human changes are important for several recreation activities. Some of the natural areas in each county have sufficient aesthetic and cultural interest to attract people to enjoy the areas or to study them. An inventory of natural areas was made. This included distinctive areas of natural environment that represented associations of soil, rocks, water, vegetation and animal life essentially unaffected by man's changes.

D. Historic Areas

Historic Areas are sites where important events of history took place or historic structures and old mining towns offer opportunities for either public or private recreation areas.

E. Soils

Soil conditions are of significance primarily in specific site planning. For some kinds of developments, widespread soil conditions are important in appraising potentials. Clay soils present problems for using septic fields. Some soils are difficult for pond building and shallow soils limit opportunities for beautification and vegetative cover. Soils also bear a vital secondary relationship to many kinds of recreational developments which need water sources.

F. Water

Existing Water Areas

An inventory of existing water areas in each county was made and is included as Appendix B and C. Because of the special significance of water areas to outdoor recreation, all significant water areas were included, whether presently developed for recreation, partly developed or undeveloped. Streams and lakes with potential use for public outdoor recreation were included.

Water Impoundment Sites

Undeveloped sites having characteristics, feasible for impounding water represent a potential for several kinds of recreational developments. An inventory of these sites is listed in Appendix D. General conditions of soils, geology and watershed hydrology were considered in identifying these potential impoundment sites. Potential sites have been identified by the Arizona Game and Fish Department.

G. Fish and Wildlife

Habitat

Food, cover, and water are essential elements of wildlife habitat which must be available to sustain populations of wildlife. The quality and quantity of this habitat is a result of the type and intensity of land use which in turn is, in part, a reflection of soil conditions. Open land wildlife (quail, doves, antelope, javelina, etc.), woodland wildlife (deer, turkey, band-tailed pigeon, bear, etc.), and wetland wildlife (ducks and geese) require different kinds of habitat. The suitability and quality of ponds and reservoirs for fish depend on such factors as water depth, temperatures, and degree of pollution.

While this element has its prime significance in relation to hunting areas, fishing waters, and natural areas, it also has importance for vacation cabins, cottages, and homesites, camping grounds, and vacation ranches.

Populations

Populations of various species of wildlife attract and are utilized by recreationists in different ways. The game species have particular importance for hunting and fishing, while the non-game species offer enjoyment to a large segment of the recreating public. The important local game animals in each county is listed in Appendix E, in each appraisal, together with their relative abundance and habitat management potentials.

H. Populations of People

Populations of potential users are important to all kinds of recreation development potentials. Population figures for the county, adjacent counties and distant urban centers were considered. Day-use activities are largely limited to the local area of influence, week-end activities to the closer selected distant urban centers, and vacationing activities to more distant areas. Metropolitan Phoenix and Tucson can provide the clientele for many recreation developments.

Population - Age and Occupation

Certain characteristics of the population influence the potential for development of some kinds of outdoor recreation areas. These include age, sex, occupation, education and ethnic background. Among these, age and occupation are key elements and were included in the appraisal for several kinds of recreation areas.

Population - Income Level

The economic well-being of the recreating public has a major influence on recreation development potential. Median Family Income provides an index of how much money will be spent for recreation.

I. Proximity and Access

The importance of the distance of the recreation areas from its source of clientele varies by degree depending upon the kind of development. Proximity for purposes of outdoor recreation is almost wholly measured by means of the public road system. Total miles of all-weather roads are listed for each county.

J. Rural Ownership and Land Use Pattern

The ownership and land use pattern of rural areas has particular bearing on the potentials for developing vacation ranches and hunting areas. The potential for vacation ranches depends in part upon the existence of ranches with substantial farmsteads or living quarters and operations that are interesting to urban people.

Recreation - Summary of Appraisal Results in District Six - Arizona

CATEGORY OF RECREATION	SANTA CRUZ COUNTY			COCHISE COUNTY			GRAHAM-GREENLEE COUNTIES			DISTRICT SIX			Possible Total Points
	High	Med.	Low	High	Med.	Low	High	Med.	Low	High	Med.	Low	
I. Vacation Cabins, Cottages, Homesites	107				93					100			150
II. Camping Grounds-		79											
1. Vacation					75		81			85			120
2. Back Country	81			74			81			78			100
3. Transient	67				51		67			61			90
III. Picnicking and Field Sports Areas	101				88			87		92			130
IV. Fishing Waters - Warm - Cold	98				77			51			75		120
		55		74				68			65		100
						28		60				26	90
V. Golf Courses		Not rated											
VI. Hunting Areas													
- Small Game	111			109			111			110			140
- Big Game	89			95			110			98			120
- Waterfowl			38	91				73			67		110
VII. Natural, Scenic, and Historic Areas	113			124			125			120			150
	108			124			126			119			150
		65		82				64			70		100
VIII. Riding Stables	99						94				64		120
IX. Shooting Preserves													
X. Vacation Farms and Ranches				95								31	130
XI. Water Sports Areas					81							27	130
XII. Winter Sports Areas		Not rated											

SUMMARY OF APPRAISAL RESULTS IN DISTRICT SIX

In arriving at the type of rating for the different recreation developments, a series of elements was used: climate; natural areas; historic areas; soils; existing waters; potential impoundment sites for water; wildlife habitat; populations of people, age, size, income, distribution; access roads; and use patterns. While not all of these elements were important for each one of the recreational developments, many did have an application and were important in determining the potential of the enterprise studies.

Vacation Cabins, Cottages, and Homesites in District Six were rated only for Santa Cruz and Cochise Counties thereby giving a high potential for the District. There appeared to be no potential in Graham or Greenlee Counties due to lack of private lands suitable for this type of recreation.

Camping Grounds including vacation site, pack trips and transient types have a high potential.

Picnicking and Field Sports Areas have a high potential in the District.

Fishing Waters, as recreational developments, were categorized into warm and cold water fisheries. Warm water has a medium potential and cold water has a low potential.

Golf Courses included standard and par-3, as well as miniature courses and driving ranges. Golf courses were not rated in District Six due to the lack of sufficient resident population to support this type of enterprise beyond present facilities.

Hunting Areas were subdivided into three categories in the District --small game, big game, and waterfowl. Small game and big game have a high potential. Waterfowl has a medium potential.

Natural, Scenic, and Historic Areas as recreational developments have a high to medium potential for further development in the counties.

Riding Stables received a medium potential.

Shooting Preserves were not appraised because of the lack of sufficient clientele nearby.

Vacation Farms and Ranches were rated only for Cochise County because of the lack of small, family-sized units. District-wide the rating was low.

Winter Sports Area and Water Sports Areas were not rated due to the lack of suitable areas for such developments. Cochise County was rated for water sports which gave the District a low potential for water sports development.



PREFACE

The following report has been compiled as a result of appraising the potential for twelve kinds of outdoor recreation developments in Santa Cruz County, Arizona. This follows an inventory of existing private recreational developments made during the summer of 1966.

The information contained in this report will be of help to groups and individuals in pointing out the potential for certain types of recreation enterprises and areas in Santa Cruz County.

This report considers the county as a whole, and no attempt has been made to appraise individual sites for recreational development.

This report was made possible through the cooperative efforts of several agencies -- city, state and Federal. Special credit is given to:

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SANTA CRUZ COUNTY
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Summary of
APPRAISAL RESULTS

In assessing the recreation potential for Santa Cruz County, it was found that a number of the recreational areas and enterprises considered have a high potential for future development. In arriving at the type of rating for the different recreation developments, a series of elements was used: climate; scenery; natural areas; historic areas; soils; existing waters; potential impoundment sites for water; wildlife habitat and populations; populations of people dealing with size and distribution, age, occupation and income levels; proximity and access of local roads and tourist routes; rural ownership and land use patterns. While not all these elements were important for each of the recreation categories studied, many of them did have application and were considered to be important in determining the potential of the enterprise studied.

The potential for several developments in the county are summarized as follows:

- I. Vacation Cabins, Cottages and Homesties have a high potential for development in the county. There is a definite future for this type of development to meet the growing needs of vacationers in southern Arizona.
- II. Camping Grounds vary in potential for development. The appraisal included three types. Vacation campgrounds have medium potential. Back country camping and transient campgrounds offer high potential for further development.
- III. Picnicking and Field Sports Areas have high potential for development.
- IV. Fishing Waters have a medium potential for further development. Only warm water fishing was appraised for the county.
- V. Golf Courses were not appraised by the team as facilities presently available were judged adequate to meet the needs of the county.
- VI. Hunting Areas vary in potential for future expansion. Hunting was divided into three categories -- small game, big game and waterfowl. Small game and big game scored high, while waterfowl rated low.
- VII. Natural, Scenic, and Historic Areas also vary in potential for development. Historic areas have a medium potential. Santa Cruz County abounds in scenic and natural areas. Thus, these areas were appraised as having high potential for increased recreational use.

- VIII. Riding Stables have high potential for development.
- IX. Shooting Preserves have limited potential for development in the county in the foreseeable future.
- X. Vacation Farms and Ranches were not rated for the county, due to the lack of small family-sized units.
- XI. Water Sports Areas in the county are limited to two bodies of water -- Pena Blanca Lake, and Lake Patagonia which is to be completed in 1968. Recreational facilities for these waters have been or are being planned and developed. (Potential for development of additional water sports areas in the county was judged to be very limited.)
- XII. Winter Sports Areas were not rated for Santa Cruz County, due to the lack of suitable climatic conditions favoring this type of facility.

SUMMARY OF APPRAISALS OF POTENTIALS FOR OUTDOOR RECREATION

Date of Appraisal JULY 1968 in SANTA CRUZ COUNTY - PIMA SOIL (& WATER) CONSERVATION DISTRICT OF ARIZONA

SCORES FOR KEY ELEMENTS (RATINGS X MULTIPLIERS)																			
KINDS OF RECREATION DEVELOPMENTS	CLIMATE	SCENERY	NATURAL AREAS	HISTORIC AREAS	SOILS	WATER ARS.		WILD-LIFE	POPULA-PEOPLE			PROX. & ACCESS		TOTAL SCORE	APPRAISAL (ADJECTIVE)				
						EXISTING	IMPOUNDMENT-SITES		HABITAT	POPULATIONS	SIZE & DISTRIBUTION	AGE & OCCUPATION	INCOME LEVELS			PROXIMITY	ACCESS	TOURIST ROUTES	RURAL OWNERSHIP AND LAND USE PATTERN
I. VACATION CABINS, COTTAGES & HOMESITES	16	18	9	XX	6	2	15	XX	XX	8	XX	16	8	9	XX	XX	107	High	
II. CAMPING	18	18	18	XX	5	2	10	XX	XX	XX	XX	XX	XX	8	XX	XX	79	Medium	
-PACK TRIP	27	27	27	XX	XX	-	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	81	High	
-TRANSIENT	9	9	XX	XX	9	XX	-	XX	XX	XX	XX	XX	XX	40	XX	XX	67	High	
III. PICNIC & - GAME, PLAY, TARGET ARS.	9	XX	XX	XX	7	XX	XX	XX	XX	30	6	14	24	8	XX	XX	98	High	
-BICYCLING	-	-	XX	XX	-	XX	XX	XX	XX	-	-	-	-	-	XX	XX	-	-	
-PICNICKING	9	9	XX	XX	7	2	5	XX	XX	30	XX	7	24	8	XX	XX	101	High	
IV. FISHING WATERS	10	XX	XX	XX	XX	6	10	XX	10	10	XX	XX	9	XX	XX	XX	55	Medium	
-COLD-WATERS	-	XX	XX	XX	XX	-	-	XX	-	XX	-	XX	-	XX	XX	XX	-	-	
-STANDARD- & PAR-3	XX	-	XX	XX	-	XX	XX	XX	XX	-	-	-	-	XX	XX	XX	-	-	
-MINIATURE- & DRIVING RANGE	XX	XX	XX	XX	-	XX	XX	XX	XX	-	-	-	-	XX	XX	XX	-	-	
VI. HUNTING AREAS	9	XX	XX	XX	9	XX	XX	40	15	20	XX	XX	10	XX	XX	8	111	High	
-BIG GAME	9	XX	XX	XX	5	XX	XX	35	24	16	XX	XX	XX	XX	XX	XX	89	High	
-WATERFOWL	9	XX	XX	XX	2	XX	XX	5	6	2	XX	14	XX	XX	XX	XX	38	Low	
VII. NATURAL, SCENIC & HISTORIC AREAS	XX	28	48	XX	XX	XX	XX	XX	10	6	XX	XX	5	8	'8	XX	113	High	
-SCENIC AREAS	XX	35	32	XX	XX	XX	XX	XX	XX	12	XX	XX	5	16	8	XX	108	High	
-HISTORIC AREAS	XX	XX	XX	30	XX	XX	XX	XX	XX	6	XX	XX	5	XX	24	XX	65	Medium	
VIII. RIDING STABLES	9	XX	24	XX	XX	XX	XX	XX	XX	20	5	14	27	XX	XX	XX	99	High	
IX. SHOOTING-PRESERVES	-	-	XX	XX	-	XX	XX	XX	XX	-	-	-	-	XX	XX	XX	-	-	
X. VACATION-FARMS--FARMS	-	-	XX	-	-	-	-	XX	XX	XX	XX	XX	-	XX	XX	-	-	-	
AND-RANCHES--RANCHES	-	-	XX	XX	-	-	XX	XX	XX	XX	XX	XX	XX	XX	XX	-	-	-	
XI. WATER-SPORTS-AREAS	-	-	XX	XX	XX	-	XX	XX	-	-	XX	-	XX	XX	XX	-	-	-	
XII. WINTER-SPORTS-AREAS	-	-	XX	XX	-	-	XX	XX	-	-	-	-	-	XX	XX	-	-	-	
A. B. C. D. E. F. G. H. I. J	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	

APPRAISING POTENTIALS FOR TWELVE TYPES OF RECREATIONAL DEVELOPMENTS

Twelve types of outdoor recreational developments were studied and analyzed for Santa Cruz County. Each is discussed in the following portion of this report.

I. Vacation Cabins, Cottages, and Homesties

Vacation Cabins, Cottages, and Homesties represent rural living space close to various recreation activities. This includes living quarters developed to rent to clients, vacation homes built to sell, and organized group "camps" (Boy Scouts etc.) that use permanent buildings. Various recreational activities may be available in the vicinity on other developed areas, public and private.

Some of these developments may combine individual ownership of vacation homes with organized community services. Upkeep and maintenance of the properties, recreation activities, sources of supplies and personal services such as laundries may be provided. In some developments, privately-owned vacation homes are available for rent, furnished, when not in use by the owner.

This type of development has potential for private enterprise in Santa Cruz County, especially in the Patagonia, Sonoita, and Elgin areas. It provides employment in construction of living quarters, operation of camp developments and recreational facilities.

The recreational potential for vacation cabins, cottages and homesties for Santa Cruz County is high with a score of 107 out of a possible 150. The evaluation of this potential using the key elements listed shows it to be worthy of future development.

An Appraisal of Vacation Cabins, Cottages & Homesites

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	2	8	16
B. Scenery	2	9	18
C. Natural Areas	1	9	9
E. Soils	1	6	6
F. Water			
Existing Water Areas	1	2	2
Impoundment Sites	3	5	15
H. Populations of People			
Size and Distribution	1	8	8
Income Levels	2	8	16
I. Proximity and Access			
Proximity	1	8	8
Access Roads	1	9	9
Totals			<u>107</u>

Possible Scores

Total Possible Score	150
High Potential	101-150
Medium Potential	51-100
Low Potential	0- 50

II. Camp Grounds

Three different types of camping areas are recognized since there is considerable variation in key elements that apply. These are vacation site camp grounds, where the camper frequently remains several days to several weeks; pack camping, which involves an extensive mountain area; transient camp grounds, where the camper stops overnight while traveling to a vacation site. Sometimes a succession of stops at transient sites makes up a camping vacation. The potential for all three of these types of camping is good in Santa Cruz County. The ratings were as follows:

Vacation Sites - 79 out of a possible score of 120
Pack Trips - 81 out of a possible score of 90
Transient - 67 out of a possible score of 80

The vacation site camp ground is a pleasant area organized to accommodate families and others who are vacationing with tents, campers, or trailer facilities. While an enjoyable environment of attractive climate and scenery is the main idea, supplementary recreation activities are usually desired -- either on the premises or nearby. Most commonly associated with camping are boating, swimming, fishing, and nature study. Both public and private areas cater to the vacation camper. Public camp grounds are associated with distinctive natural areas, such as parks, and are usually limited to simple facilities and minimum services. Private camp grounds often cater to those desiring more elaborate or exclusive facilities and greater services. There will be a need for more camp ground facilities in the county as use by vacationers increases.

Potential for development of additional public campsites in the county is good, especially in the Coronado National Forest.

Potential for developing pack trip camping also exists within the Coronado National Forest, especially in the Santa Rita Mountains.

Transient camp grounds serve a quite different purpose from the others. The transient potentials are adjacent to or no more than a mile away from tourist routes which traverse desirable vacation areas. The potential for transient camp grounds is largely for private enterprise. The emphasis is on convenience and facilities, including automatic laundries, shower baths, sewage disposal connections, supply store and the like.

An Appraisal of Camp Grounds

Key Elements	Multipliers								
	Vacation Site			Pack Trip			Transient		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	2	9	18	3	9	27	1	9	9
B. Scenery	2	9	18	3	9	27	1	9	9
C. Natural Areas	2	9	18	3	9	27			
E. Soils	1	5	5				1	9	9
F. Water Areas									
Existing	2	1	2						
Water Impoundment									
Sites	2	5	10						
I. Proximity and Access									
Access Roads	1	8	8						
Tourist Routes							5	8	40
Totals			79			81			67

Possible Scores			
Total Possible Score	120	90	80
High Potential	81-120	61-90	51-80
Medium Potential	41- 80	36-60	31-50
Low Potential	0- 40	0-35	0-30

III. Picnic and Field Sports Areas

These are basically areas developed for concentrated play activities, other than golf, water sports, and winter sports. Some areas combine field and water sports, but generally an area is developed around one or the other group. Competitive games using ball diamonds, courts, tracks, and the like are one type of development. Others include the shooting sports with ranges for rifle, shotgun, pistol, and archery. Many areas may have special facilities for small children.

One activity included here requires separate consideration from the other although frequently associated with it. This is picnicking. Requirements are different and key elements vary somewhat.

Picnicking is more resource-oriented than field games. Frequently, picnicking areas are located in association with either field game areas or water sports areas. Most picnicking takes place on public areas - parks, forests, roadside rests, lake or creek vistas, etc.

The potential for picnicking and field sports areas in Santa Cruz County is high with scores of 101 out of a possible 130 and 98 out of a possible 120. The major limitation for increased development of these activities is the small population residing within the county; however, the closeness of the county to metropolitan Tucson has a direct bearing on the potential.

An Appraisal of Picnic and Field Sports Areas

Key Elements	Multipliers					
	Game, Play, Target Areas			Picnicking		
	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	9	9	1	9	9
B. Scenery				1	9	9
E. Soils	1	7	7	1	7	7
F. Water Areas						
Existing				1	2	2
Water Impoundment Sites				1	5	5
H. Population --						
Size and Distribution	3	10	30	3	10	30
Age	1	6	6			
Income	2	7	14	1	7	7
I. Proximity & Access						
Proximity	3	8	24	3	8	24
Access Roads	1	8	8	1	8	8
Totals			98			101

	Possible Scores	
Total Possible Score	120	130
High Potential	81-120	91-130
Medium Potential	41- 80	46- 90
Low Potential	0- 40	0- 45

IV. Fishing Waters

Fishing waters as recreation include any type of water area with significant opportunities for catching fish by sport fishing methods. The fishing waters enterprise may include ownership, management, and control of the waters, plus services, or it may be limited to furnishing access and services at public waters.

While there are many variations according to the species of fish involved, the major division is between warm water and cold water fishing. "Cold water" fishing concerns various species of trout. "Warm water" fishing on lakes and streams includes all other fish.

Fishing water potentials are heavily dependent upon existing or developable waters and fishery management. All other elements are less important.

With an abundance of suitable waters for fish lacking in Santa Cruz County, the potential for additional development of warm water fisheries was judged to be only medium. This judgment was based primarily on the potential for development and management of a fisheries program for Lake Patagonia.

Although there are a number of farm ponds stocked with bass and bluegill in the County, these lend themselves to family type recreation, rather than to public sports fishing. Among the waters in Santa Cruz County available for fishing are Pena Blanca Lake and Lake Patagonia presently under development.

An Appraisal of Fishing Waters

<u>Key Element</u>	<u>Warm Waters</u>		
	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	1	10	10
F. Water Areas			
Existing	3	2	6
Impoundment Sites	2	5	10
G. Fish Populations	2	5	10
H. Population --			
Size and Distribution	1	10	10
Occupations			
I. Proximity to Cities	1	9	<u>9</u>
Total			55

Possible Scores

Total Possible Score	100
High Potential	71-100
Medium Potential	36- 70
Low Potential	0- 35

V. Golf Courses

Golfing activities are in two categories: first, standard golfing with courses of 9 or 18 holes and the newly popular par-3 type; second, driving ranges and miniature golfing. Standard and par-3 golfing have substantial resource requirements. However, these requirements are not exceptional and are flexible enough so that they can be met in most local areas. On the other hand, golf driving ranges and miniature golfing enterprises are primarily user-oriented and have minimal resource demands. Thus, the key elements for golfing are largely related to population and location.

Golf courses were not rated by the appraisal team due to a lack of sufficient resident populations within the county necessary to support this type of enterprise beyond the present level of development.

VI. Hunting Areas

Hunting areas received high scores because the quality of hunting on private and public lands in Santa Cruz County is good to outstanding. Quality hunting refers to hunting which provides a substantial quality of game with sufficient land available for hunting.

The hunting areas recreation category for the purpose of this evaluation is divided into three divisions: small game, big game and waterfowl. In Santa Cruz County small game species include the quail, mourning and white-winged doves, band-tailed pigeon, cottontail rabbit, and squirrel. Big game consists of mule and white-tailed deer, antelope, javelina, and wild turkey. Waterfowl includes the ducks and geese. Recreation hunting areas are areas of land and water -- public or private -- where game is produced by habitat manipulation, through farming, forestry practices or game management methods. In Santa Cruz County small game and big game are produced and harvested on both private and public lands while waterfowl, essentially produced outside the county, is harvested mostly from private lands and waters.

Hunting is regulated by state laws for resident species and by Federal and state laws for migrating species such as the waterfowl and doves. Hence, the potential for private development of hunting areas is influenced by these regulatory measures as well as by the elements considered below. Santa Cruz County is an important small game area where hunters annually take substantial numbers of doves and quail. Although the present production is good, the extent of the habitat and the potential for increased development has resulted in a high potential rating of 89 for big game hunting in the county. Small game also received a high potential score of 111, mostly because of the excellent populations of doves and quail. Cottontail rabbits occur in the county in fair numbers and provide some hunting opportunities.

Waterfowl numbers in the county are not abundant; however, local concentrations of ducks and geese do occur in the fall on many of the ponds in and adjacent to agricultural areas and provide fair hunting opportunities. Water development and habitat improvement could substantially improve conditions for ducks and geese.

An Appraisal of Hunting Areas

Key Elements	Multipliers								
	Small Game			Big Game			Waterfowl		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	9	9	1	9	9	1	9	9
E. Soils	1	9	9	1	5	5	1	2	2
F. Water Areas									
Existing									
Impoundment Sites									
G. Wildlife									
Habitat	5	8	40	5	7	35	5	1	5
Populations	3	5	15	3	8	24	3	2	6
H. Population									
Size & Distribution	2	10	20	2	8	16	1	2	2
Income Level							2	7	14
I. Proximity to Cities	1	10	10						
J. Rural Ownership Pattern	1	8	8						
Totals			111			89			38

Possible Scores

Total Possible Score	140	120	130
High Potential	96-140	81-120	91-130
Medium Potential	51- 95	41- 80	46- 90
Low Potential	0- 50	0- 40	0- 45

VII. Natural, Scenic and Historic Sites

Natural areas and scenic areas have much in common. Most natural areas of significance have attractive scenery. Many highly scenic areas have natural areas included. Nevertheless, the two concepts are quite different. Natural areas are valued for their aesthetic, scenic, wild and undisturbed character. Scenic areas are valued for their beauty. Both natural and scenic areas were inventoried specifically for this county. Its potential for increased use was appraised. The amount of new servicing facilities that would be needed to accommodate the increases in use was considered. Some of these areas are not yet used appreciably; therefore, estimates were made on the basis of increased local recreation participation in relation to the present level.

Historic areas are sites of past events that are of sufficient interest to attract people to learn of their country's heritage. In Santa Cruz County they center, for the most part, around a few mining ruins. Other historic sites include old missions, pioneer sites and similar places of interest.

The existing undeveloped natural areas of Santa Cruz County have a high potential with a score of 113. Likewise, the undeveloped scenic areas received a high potential with a 108 score. The potential for historic areas was medium, scoring 65. Possible scores: 150, 150, and 100.

Natural areas in the county were rated both as to their natural qualities and their contribution to scenic areas. The county has a number of wildland areas suitable for hiking, nature study, and other outdoor activities. Interesting vegetation, animal life, and ecological formations add much to the scenery. Most of these areas present opportunities for public sector development.

Wildlife populations are an attractive part of natural areas in the county and deserve special attention. The common birds, mammals, reptiles, amphibians, and insects in their natural surroundings are a fascinating part of many natural areas in the county.

Madera Canyon and the Santa Rita Mountains are nationally recognized for their unique and colorful bird life. Several species occurring in the United States can be found only in these and adjacent areas of southern Arizona. Annually, many visitors travel from afar to Santa Cruz County to observe and study its animal and plant life.

An Appraisal of Natural, Scenic and Historic Areas

Key Elements	Multipliers								
	Natural			Scenic			Historic		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
B. Scenery	4	7	28	5	7	35			
C. Natural Areas	6	8	48	4	8	32			
D. Historic Areas							5	6	30
G. Wildlife									
Populations	1	10	10						
H. Population --									
Size and Distribution	1	6	6	2	6	12	1	6	6
I. Proximity & Access									
Proximity	1	5	5	1	5	5	1	5	5
Access Roads	1	8	8	2	8	16			
Tourist Routes	1	8	8	1	8	8	3	8	24
Totals			113			108			65

Possible Scores

Total Possible Score	150	150	100
High Potential	101-150	101-150	71-100
Medium Potential	51-100	51-100	36- 70
Low Potential	0- 50	0- 50	0- 35

VIII. Riding Stables

Horseback riding may be an activity in a recreation enterprise of a broader sort - such as a vacation farm or a group camp - or it may be the sole activity of an enterprise. The enterprise may include the resource area on which the riding is done or it may merely provide the services that enable riders to make use of a public area with bridle trails. Whether or not the riding area is on public or private land, the activity is closely resource-oriented, particularly to natural areas. Further, the enterprise is almost always privately operated, even when located on public land. We are concerned here with enterprises involved primarily with horseback riding.

Potential for further development of riding stables in Santa Cruz County is high with a score of 99 out of a possible 120. This type of recreation enterprise is limited in the county at present. The appraisal team felt that ranches and operators with horses could profitably increase this activity, particularly in connection with big game hunting and vacation pack trips.

An Appraisal of Riding Stables

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	1	9	9
C. Natural Areas	3	9	27
H. Population -- Size and Distribution	2	10	20
Age	1	8	8
Income Level	2	7	14
I. Proximity to Cities	3	7	<u>21</u>
Total			99

Possible Scores

Total Possible Score	120
High Potential	81-120
Medium Potential	41- 80
Low Potential	0- 40

IX. Shooting Preserves

Shooting of stocked, domestic game under conditions simulating natural hunting has been done in parts of the U. S. for several decades. Some of these shooting "preserves" have been club arrangements and some commercial. However, the interest in this type of recreation has grown rapidly since World War II and its potential still lies in the future.

Almost all of the game used on shooting preserves is of four species -- ring-necked pheasant, bobwhite quail, chukar partridge and mallard duck.

The operation is a combination of two or three activities: farming the land to grow crops and control vegetation; raising game (or purchasing it from a game farm); raising, training and handling hunting dogs. It is, therefore, a complicated and demanding kind of enterprise.

Development of shooting preserve enterprises was not rated for Santa Cruz County because of the apparent lack of sufficient clientele in the county to support such operations, and the potential for heavy competition for a market with nearby counties.

X. Vacation Ranches

A vacation ranch may offer home-cooked meals and country living or light housekeeping facilities rented on a weekly basis, for urban people. A vacation ranch is heavily resource-oriented and often places emphasis on a variety of ranching activities. It is strictly rural in its "atmosphere". Other recreation activities may be offered such as fishing, horseback riding, and games.

This type of recreation enterprise was not rated by the appraisal group because of the limited number of small family-size ranch units necessary to this type of operation.

XI. Water Sports Areas

Areas of land and water devoted primarily to swimming, sunbathing, boating, waterskiing and skin diving are among the most popular for recreation today.

The completion in 1968 of 260-acre Lake Patagonia on Sonoita Creek, will offer Tucson-Nogales residents access to the largest body of water available for water-based recreation in southern Arizona, exclusive of San Carlos Lake. Facilities planned will serve an annual visitation estimated at 100,000 persons.

Potentials for additional water sports facilities for Santa Cruz County were not rated because of the lack of unutilized water areas suitable for such development.

XII. Winter Sports Areas

Winter sports areas generally center around skiing. Additional activities that may be offered include tobogganing, ice skating, sledging, sleigh rides, snowmobile trips and dog sledding.

Winter sports areas were not rated because of climate limitations.

APPENDIX A

INVENTORY OF NATURAL, SCENIC AND HISTORIC AREAS

Name or Identity of Area	Type	Location	Description
Blue Haven	Scenic	Central Santa Cruz County	Stream with permanent flows through tall trees in semi-desert hills with high mountains for a backdrop.
The Horse Museum	Historic	Patagonia, Santa Cruz County	Vehicles and trappings having to do with the horse, including all kinds of equipment, saddles, harness, bits, spurs, paintings, bells, bronzes, books and old vehicles.
Tubac Presidio State Historical Park	Historic	Tubac, Santa Cruz County	Tubac Presidio, established as a Spanish Frontier Post in 1752. Exhibit material in museum related to Spanish and Mexican Occupation Periods, American Westward Expansion Period, and early Arizona Statehood Period. Historic ruins on monument grounds. Historic church and school in vicinity.
Tumacacori National Monument Museum	Historic	Nogales, Santa Cruz County	Dioramas, drawings and photographs of 17th Century Missions.
Fort Crittenden	Historic	Patagonia	Old Army Fort
Mowery Mines	Historic	Patagonia	Old Mines
Ruby Mining District	Historic	Ruby	Old Mines

APPENDIX B

INVENTORY OF LAKES AND IMPOUNDMENTS IN SANTA CRUZ COUNTY USED FOR RECREATION PURPOSES

Name of Lake	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facilities	Use Period (No. Mos.)
Pena Blanca	49	45	FS	A1, A2, B2, B4, B5, C, E, F, G, H, I, J, K, L	12
Lake Patagonia *		260	Pvt.	A2, B4, B5, C, D, E, F, G, H, K, L	12

Code for Recreation Activity and Facilities

A1 - Trout	) Fishing	E - Duck Hunting
2 - Warm Water)		F - Picnic Tables
B1 - No Motors)		G - Camping Units
2 - Elec. only)		H - Trailer Space
3 - No. Restrict.) Boating		I - Lodging
4 - Boats for Rent)		J - Supplies
5 - Launching Area)		K - Drinking Water
C - Swimming		L - Rest Rooms
D - Water Skiing		

* To be completed during 1968

APPENDIX C

INVENTORY OF STREAMS IN SANTA CRUZ COUNTY USED FOR RECREATION PURPOSES

Name of Stream	Miles of Stream	Width Average Feet	Recreation Activity and Facilities	Use Period (No. Mos.)
Gardner Canyon	5	6	C	12
Madera Canyon	3	6	C	12
Sonoita Creek	4	6	C	12

Code for Recreation Activity and Facilities

A1 - Trout) Fishing	E - Duck Hunting
2 - Warm Water)	F - Picnic Tables
B1 - No Motors)	G - Camping Units
2 - Elec. Only)	H - Trailer Space
3 - No Restrict.) Boating	I - Lodging
4 - Boats for Rent)	J - Supplies
5 - Launching Area)	K - Drinking Water
C - Swimming	L - Rest Rooms
D - Water Skiing	

APPENDIX D

INVENTORY OF POTENTIAL IMPOUNDMENT SITES - SANTA CRUZ COUNTY

Name	Stream	Dam Location		Surface Ac.		Capacity Ac/Ft		Drainage Area Sq. Mi.	Land Status	
		Sec.	Twp.	Rge.	Min.	Max.	Min.			Max.
Bog Hole Lake		32	22S	17E	28	66	175	650	4	FS
Harshaw Lake	Harshaw	36	22S	16E	115	228	3830	8110	7	FS,Pat.
Harshaw Lake	Harshaw	26	22S	16E	90	160	2200	5500	18	FS,Pat.
Josephine Lake	Josephine	30	21S	14E	100	240	2000	12000	29	Pat.
Peck Canyon Lake	Peck	27	22S	12E	100	187	2500	9600	9	FS
Red Rock A Lake	Red Rock	3	22S	16E	120	490	2970	24000	29	FS
Red Rock C Lake	Red Rock	11	22S	16E	80	200	1760	5270	21	FS,Pat.
Red Rock Dunham Lake	Red Rock	7	22S	17E	140	235	5000	9700	11	FS
San Cayetano Lake	Fresno	21	22S	14E	70	70	1900	1900	9	Pat.
Temporal Lake	Temporal	23	21S	15E	270	700	7760	27420	80	FS
Upper Pena Blanca Lake	Santa Cruz	35	23S	12E	70	85	1820	3080	10	FS
Walker Canyon Lake	Santa Cruz	24	23S	12E	50	70	1325	2000	9	FS
Sycamore Canyon Lake					75	100				

APPENDIX E

WILDLIFE AND WILDLIFE HABITAT - SANTA CRUZ COUNTY

Species	Population Rating				Existing Habitat				Habitat Trend			Habitat Potential		
	I II III IV				I II III IV				Up Down Same			Good Fair Poor		
	I	II	III	IV	I	II	III	IV	Up	Down	Same	Good	Fair	Poor
Antelope				X			X			X				X
Bear				X			X				X			X
Bighorn Sheep							X			X				X
Mule Deer		X				X			X			X		
White-tailed Deer		X			X						X	X		
Mountain Lion		X				X					X	X		
Javelina			X			X					X	X		
Turkey				X		X					X	X		
Mearns Quail	X				X				X			X		
Gambel Quail		X					X				X		X	
Mourning Dove			X				X				X		X	
Band-tailed Pigeon		X					X				X		X	
White-winged Dove		X					X				X		X	
Cottontail Rabbit			X				X				X		X	

APPENDIX E (Cont'd.)

WILDLIFE AND WILDLIFE HABITAT - SANTA CRUZ COUNTY

Species	Population Rating				Existing Habitat				Habitat Trend			Habitat Potential		
	I II III IV				I II III IV				Up Down Same			Good Fair Poor		
	I	II	III	IV	I	II	III	IV	Up	Down	Same	Good	Fair	Poor
Fox Squirrels (Ariz. Grey)				X			X			X			X	
Aberts Squirrel							X				X		X	
Waterfowl			X					X	X				X	
Fish														
Cold Water			X					X			X			X
Warm Water			X				X		X				X	

I = Excellent

II = Good

III = Fair

IV = Poor

APPENDIX F

NATIONAL FOREST RECREATION SITES IN SANTA CRUZ COUNTY

CORONADO NATIONAL FOREST

Name of Site	Recreation Activities					Facilities				Season of Use	Approximate Elevation
	Camping	Picnicking	Hunting	Fishing	Trailers Permitted	Drinking Water	Tables & Fireplaces				
Bog Springs	x	x	x		x	x	x		April-November	5600	
Madera Canyon	x	x	x			x	x		April-November	5000	
Roundup	x	x	x			x	x			5500	
Red Rock	x	x	x	x			x		All year	4000	
Thumb Rock		x	x	x			x		All year	4000	
White Rock	x	x	x	x	x		x		All year	4000	
Calabasas Canyon	x	x	x		x		x		All year	4000	

APPENDIX G

RECREATIONAL USE OF SOILS

All soils can be used for recreation of some kind. Some uses have no soil limitations. Other uses have moderate to severe limitations. In fact, some soils are actually dangerous if used for certain recreational activities, such as camping. For example, the use of soil subject to flash flooding or landslides can lead to the loss of life and property.

Some of the soil qualities that affect recreational uses are as follows:

Flooding imposes severe limitations for use of soils for camp sites and recreation buildings. In Santa Cruz County flash floods are always a possibility. Soils that are wet all year, even if they are not flooded, are not suitable for campsites, recreational roads and trails, playgrounds and picnic areas. Soils that dry out slowly after rains present problems where intensive use is contemplated.

Droughty soils have limitations for many recreational uses. On such sites, grass cover needed for playing fields is difficult to develop and maintain. Access roads may be excessively dusty.

The ability to support a load is important in many kinds of recreational activities. Some soils, when wet, fail to support structures such as access roads, trails, and buildings.

Slope affects the use of soils for recreation. Nearly level, well drained, moderately permeable soils free of coarse fragments have few or no limitations for use as playgrounds, camp sites, sites for recreational buildings, roads and trails. Soils with steep slopes often have severe limitations for most recreational uses and generally the slope should not exceed 8 percent. On the other hand, steeply sloping soils are essential for ski runs and are desirable for hiking areas, scenic values and vacation cottage sites "with a view".

Soil depth affects many uses. Soils underlain by bedrock at shallow depths cannot be leveled for playgrounds and camp sites except at high cost. Roads, trails and basements are very difficult to construct on these soils. It is difficult to establish vegetation on soils shallow to clay or rock, thus making them poor locations for playing fields and other intensive use areas.

Surface soil texture is an important characteristic. High sand or clay content in the surface soils is undesirable for playgrounds, camp sites,

or other uses that involve heavy foot traffic by people or horses. Soils high in clay become sticky when wet and do not dry out quickly after rains. On the other hand, loose sandy soils are undesirable as they are unstable when dry. Sandy loam and loam surface textured soils with other characteristics being favorable are the most desirable for recreational uses involving heavy use by people.

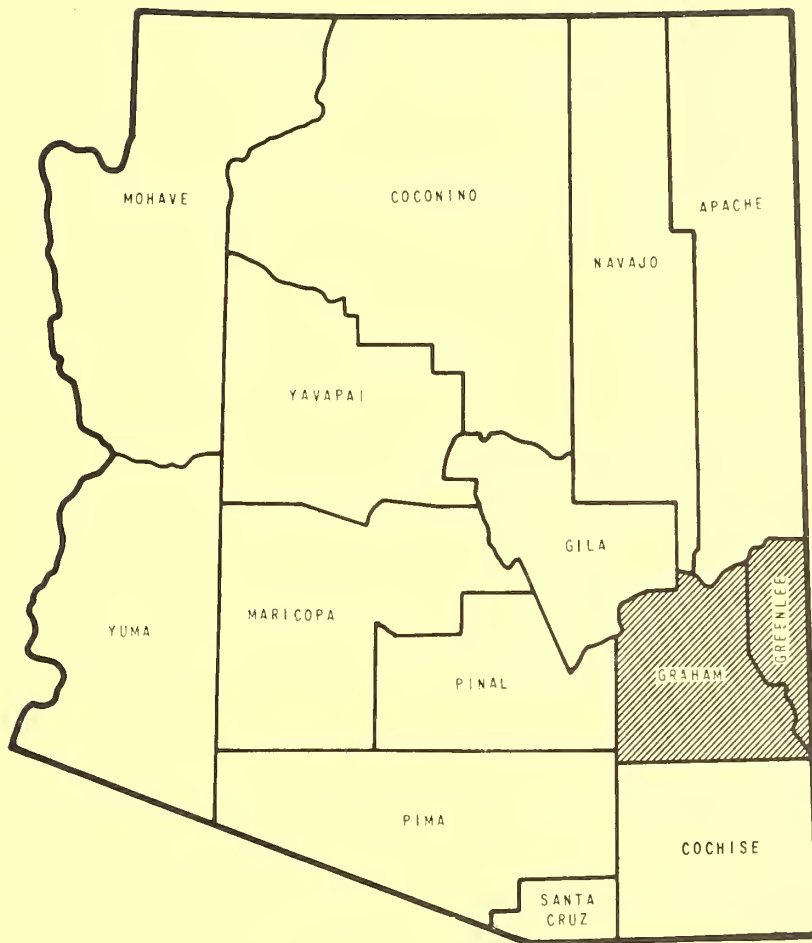
The presence of stones, rocks, cobbles, or gravel limits the use of some soils for recreational uses. Very stony, stony, rocky or gravelly soils have severe to moderate limitations for use as camp sites and playgrounds. In some instances it is feasible to remove the stones, thus eliminating the hazard. Rounded gravels present hazards on steeply sloping soils used for foot trails.

Sanitary facilities are essential for most modern recreational areas and septic tanks are often the only means of waste disposal. Some soils absorb septic tank effluent rapidly and other soils absorb it very slowly. Soils that are slowly permeable, poorly drained, shallow to rock, subject to flooding, or steeply sloping all have severe limitations for septic tank filter fields. In some cases where soils cannot handle the volume of waste involved, sewage lagoons can be used. These also are feasible only in soils that meet their special requirements.

Productive capacity of soils for vegetation of different kinds is closely related to the feasibility of many recreation enterprises. The ability of soils to grow sods that can take concentrated human traffic has already been noted as a factor in such areas as playgrounds and camp sites. The development of such vegetative conservation practices as shade tree plantings, living fences, plant screens, and barriers to trespass is guided by soil limitations. The capacity of an area to produce economically harvestable crops of game is dependent, in part, on the productive ability of its soils.

Impounded waters reflect, in considerable measure, the kinds of soils beneath and above (on the watershed). Fertile soils, or soils capable of effective use of artificial fertilizers, generally make fertile waters. Fertile waters produce good fish crops which, with good management, produce good fishing. On the other hand, extremely acid soils associated with a proposed water impoundment may be a critical limitation to the development of good fishing.

Interpretations for specific recreational uses can best be made locally by those familiar with the soils and conditions in the area. Soils in an area are normally grouped into associations having similar characteristics according to their limitations for a specific recreational use.



PREFACE

The following report has been compiled as a result of appraising the potential for twelve kinds of outdoor recreation developments in Graham and Greenlee Counties, Arizona. This follows an inventory of existing private recreational developments made during the summer of 1966.

This report considers both counties as a whole, and no attempt has been made to appraise individual sites for recreational development.

The information contained in this report will be of help to groups and individuals in pointing out the potential for certain types of recreation enterprises and areas in Graham and Greenlee Counties.

This report was made possible through the cooperative efforts of several agencies -- State and Federal. Special credit is given to:

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GRAHAM & GREENLEE COUNTIES

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Summary of

APPRAISAL RESULTS

In assessing the recreation potential for Graham and Greenlee Counties, it was found that many of the recreational areas and enterprises considered have a high potential for future development. In arriving at the type of rating for the different recreation developments, a series of elements was used: climate; scenery; natural areas; historic areas; soils; existing waters; potential impoundment sites for water; wildlife habitat and populations; populations of people dealing with size and distribution, age, occupation and income levels; proximity and access of local roads and tourist routes; rural ownership and land use patterns. While not all of these elements were important for each one of the recreational developments studied, many of them did have an application and were considered to be important in determining the potential of the enterprise studied.

Vacation Cabins, Cottages and Homesties were not rated for Graham and Greenlee Counties because of the limited amount of private land suited for this type of recreation development.

Camping Grounds, including vacation sites, pack trips and transient type, have a medium to high potential for further development in the counties.

Picnicking and Field Sports Areas were broken down into two categories. The first was game, play and target areas, generally located near urbanized areas, which received a medium potential score. Second was picnicking, which also received a medium potential.

Fishing Waters, as recreational developments, were categorized into warm and cold water fisheries. Both categories scored medium, based on the potential for development beyond the present level.

Golf Courses included both standard and par-3, as well as the miniature courses and driving ranges. Golf courses were not rated by the appraisal group due to the lack of a sufficient resident population to support this type of enterprise beyond present facilities.

Hunting Areas in Graham and Greenlee Counties were subdivided into three categories -- small game, big game, and waterfowl. Small game and big game scored high, while waterfowl rated a medium score.

Natural, Scenic and Historic Areas as recreational developments have a medium to high potential for further development in the counties.

Riding Stables received a high potential score.

Shooting Preserves were not appraised by the group because of the lack of sufficient clientele nearby.

Vacation Farms and Ranches were not rated for the counties because of the lack of small, family-sized units.

Winter Sports Areas and Water Sports Areas were not rated for the counties due to the lack of suitable areas for such developments.

From this brief summary, one can see that there are many different types of recreational developments that do have a potential for expansion within Graham and Greenlee Counties. The analysis in this report did not consider market, need, and demand, nor did it consider economics. It appraised only the potential of the resources.

SUMMARY OF APPRAISALS OF POTENTIALS FOR OUTDOOR RECREATION

Date of Appraisal MARCH 1968 in GRAHAM and GREENLEE COUNTIES SOIL (& WATER) CONS. DIST. OF ARIZONA

KINDS OF RECREATION DEVELOPMENTS		SCORES FOR KEY ELEMENTS (RATINGS X MULTIPLIERS)														TOTAL SCORE	APPRAISAL (ADJECTIVE)		
		CLIMATE	SCENERY	NATURAL AREAS	HISTORIC AREAS	SOILS	WATER		WILD LIFE	POPULA. -PEOPLE		PROX. & ACCESS		RURAL OWNERSHIP & LAND USE PATTERN					
							EXISTING	IMPOUNDMENT SITES		HABITAT	POPULATIONS	SIZE & DISTRIBUTION	AGE & OCCUPATION		INCOME LEVELS			PROXIMITY	ACCESS	TOURIST ROUTES
I. VACATION CABINS, GOLF COURSES & HOMESITES	- VACATION SITE	16	20	16	XX	8	12	6	XX	XX	XX	XX	XX	XX	3	XX	XX	81	High
	- PACK TRIP	21	30	24	XX	XX	6	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	81	High
	- TRANSIENT	6	10	XX	XX	8	XX	3	XX	XX	XX	XX	XX	XX	XX	40	XX	67	High
III. PICNIC & GAME, PLAY, TARGET AREAS	- BICYCLING	8	XX	XX	XX	5	XX	XX	XX	XX	3	5	10	15	5	XX	XX	51	Medium
	- PICNICKING	8	10	XX	XX	8	9	3	XX	XX	24	XX	5	15	5	XX	XX	87	Medium
	- WARM WATERS	7	XX	XX	XX	XX	24	6	XX	12	10	XX	XX	9	XX	XX	XX	68	Medium
IV. FISHING WATERS	- COLD WATERS	9	XX	XX	XX	XX	18	12	XX	12	XX	--	XX	9	XX	XX	XX	60	Medium
	- STANDARD & PAR-3	XX	--	XX	XX	--	XX	XX	XX	XX	--	--	--	--	XX	XX	XX	--	--
	- MINIATURE GOLFING RANGE	XX	XX	XX	XX	--	XX	XX	XX	XX	--	--	--	--	XX	XX	XX	--	--
VI. HUNTING AREAS	- SMALL GAME	9	XX	XX	XX	9	XX	XX	45	27	6	XX	XX	5	XX	XX	10	111	High
	- BIG GAME	9	XX	XX	XX	9	XX	XX	45	27	20	XX	XX	XX	XX	XX	XX	110	High
	- WATERFOWL	9	XX	XX	XX	9	XX	XX	25	15	5	XX	--	XX	XX	XX	XX	73	Medium
VII. NATURAL, SCENIC & HISTORIC AREAS	- NATURAL AREAS	XX	36	54	XX	XX	XX	XX	XX	8	10	XX	XX	5	4	8	XX	125	High
	- SCENIC AREAS	XX	45	36	XX	XX	XX	XX	XX	XX	20	XX	XX	5	12	8	XX	126	High
	- HISTORIC AREAS	XX	XX	XX	25	XX	XX	XX	XX	XX	10	XX	XX	5	XX	24	XX	64	Medium
VIII. RIDING STABLES		9	XX	27	XX	XX	XX	XX	XX	16	8	16	18	XX	XX	XX	XX	94	High
IX. SHOOTING PRESERVES		--	XX	XX	--	XX	XX	XX	XX	XX	--	--	--	--	XX	XX	XX	--	--
	- FARMS	--	--	--	XX	--	--	--	XX	XX	XX	XX	XX	--	XX	XX	--	--	--
	- RANCHES	--	--	--	XX	XX	--	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	--	--
XI. WATER SPORTS AREAS		--	XX	XX	XX	--	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
		--	--	--	XX	XX	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
		--	--	--	XX	XX	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
XII. WINTER SPORTS AREAS		--	--	--	XX	XX	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
		--	--	--	XX	XX	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
		--	--	--	XX	XX	--	--	XX	XX	XX	XX	XX	--	XX	XX	XX	--	--
		A.	B.	C.	D.	E.	F.1	F.2	G.1	G.2	H.1	H.2	H.3	L.1	L.2	L.3	J.		

APPRAISING POTENTIALS FOR TWELVE TYPES OF RECREATIONAL DEVELOPMENTS

Twelve types of outdoor recreational developments were studied and analyzed for Graham and Greenlee Counties. Each is discussed in the following portion of this report.

I. Vacation Cabins, Cottages & Homesites

Vacation Cabins, Cottages, and Homesites represent rural living space close to various recreation activities. This includes living quarters developed to rent to clients, vacation homes built to sell, and organized group "camps" (Boy Scouts, etc.) that use permanent buildings. Various recreational activities may be available in the vicinity on other developed areas, public and private.

Some of these developments may combine individual ownership of vacation homes with organized community services. Upkeep and maintenance of the properties, recreation activities, sources of supplies and personal services such as laundries may be provided. In some developments, privately-owned vacation homes are available for rent, furnished, when not in use by the owner.

Vacation Cabins, Cottages, and Homesites were not rated for Graham and Greenlee Counties due to the limited extent of suitable private lands available for such development within the counties.

II. Camping Grounds

Three different types of camping areas are recognized since there is considerable variation in key elements that apply. These are: vacation site camping grounds, where the camper frequently remains several days to several weeks; pack camping, which involves an extensive mountain area; transient camping grounds, where the camper stops overnight while traveling to a vacation site. Sometimes a succession of stops at transient sites makes up a camping vacation. The potential for all three of these types of camping in the counties is good. The ratings are as follows:

Vacation Sites	- 81 out of a possible score of 120
Pack Trips	- 81 out of a possible score of 100
Transient	- 67 out of a possible score of 90

The vacation site campground is a pleasant area organized to accommodate families and others who are vacationing with tents, campers, or trailer facilities. While an enjoyable environment of attractive climate and scenery is the main idea, supplementary recreation activities are usually desired -- either on the premises or nearby. Most commonly associated with camping are boating, swimming, fishing, and nature study. Both public and private areas cater to the vacation camper. Public camping grounds are associated with distinctive natural

areas, such as parks, and are usually limited to simple facilities and minimum services. Private campgrounds often cater to those desiring more elaborate or exclusive facilities and greater services. There will be a need for more campground facilities in the counties as use by vacationers increases.

Potential for development of additional public campsites is high, especially in the Coronado and Apache National Forests. The San Carlos Indian Reservation offers opportunity for private development of such facilities.

Potential for developing pack-trip camping exists within the National Forests and San Carlos Indian Reservation.

Transient campgrounds serve a quite different purpose from the others. The transient potentials are adjacent to or no more than a mile away from tourist routes which traverse desirable vacation areas. The potential for transient campgrounds is largely for private enterprise. The emphasis is on convenience and facilities, including automatic laundries, shower baths, sewage disposal connections, supply store and the like.

An Appraisal of Camping Grounds

Key Elements	Vacation Site			Pack Trip			Transient		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	2	8	16	3	7	21	1	6	6
B. Scenery	2	10	20	3	10	30	1	10	10
C. Natural Areas	2	8	16	3	8	24			
E. Soils	1	8	8				1	8	8
F. Water Areas									
Existing	2	6	12	1	6	6			
Water Impoundment Sites	2	3	6				1	3	3
I. Proximity & Access									
Access Roads	1	3	3						
Tourist Routes							5	8	40
			81			81			67

Possible Scores

Total Possible Scores	120	100	90
High Potential	81-120	71-100	61-90
Medium Potential	41- 80	36- 70	31-60
Low Potential	0- 40	0- 35	0-30

III. Picnic and Field Sports Areas

These are basically areas developed for concentrated play activities, other than golf, water sports, and winter sports. Some areas combine field and water sports, but generally an area is developed around one or the other group. Competitive games using ball diamonds, courts, tracks, and the like are one type of development. Others include the shooting sports with ranges for rifle, shotgun, pistol, and archery. Many areas may have special facilities for small children.

One activity included here requires separate consideration from the others, although frequently associated with it. This is picnicking. Requirements are different and key elements vary somewhat.

Picnicking is more resource-oriented than field games. Frequently, picnicking areas are located in association with either field game areas or water sports areas. Most picnicking takes place on public areas -- parks, forests, roadside rests, lake or creek vistas, etc.

The potential for additional picnicking and field sports areas in Graham and Greenlee Counties was judged medium with scores of 87 out of a possible 130 and 51 out of a possible 120. The major limitation for increased development of these activities is the small population residing within the counties and the distances away from large centers of population.

An Appraisal of Picnic and Field Sports Areas

Key Elements	Multipliers								
	Game, play, target areas			Bicycling			Picnicking		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	8	8				1	8	8
B. Scenery							1	10	10
E. Soils	1	5	5				1	8	8
F. Water Areas									
Existing							1	9	9
Water Impoundment Sites							1	3	3
H. Population - -									
Size & Distribution	3	1	3				3	8	24
Age	1	5	5						
Income	2	5	10				1	5	5
I. Proximity & Access									
Proximity	3	5	15				3	5	15
Access Roads	1	5	5				1	5	5
Totals			51						87

Possible Scores			
Total Possible Score	120	110	130
High Potential	81-120	76-110	91-130
Medium Potential	41- 80	41- 75	46- 90
Low Potential	0- 40	0- 40	0- 45

IV. Fishing Waters

Fishing waters as recreation include any type of water area with significant opportunities for catching fish by sport fishing methods. The fishing waters enterprise may include ownership, management, and control of the waters, plus services, or it may be limited to furnishing access and services at public waters.

While there are many variations according to the species of fish involved, the major division is between warm water and cold water fishing. "Cold water" fishing concerns various species of trout. "Warm water" fishing on lakes and streams includes all other fish.

Fishing water potentials are heavily dependent upon existing or developable waters and fishery management. All other elements are much less important.

The many trout streams in Greenlee County are presently under intensified management which includes stocking of fingerling and catchable-size fish. Only moderate potential exists for increasing fish stocks in these waters.

Many cold water impoundments and stock tanks suitable for trout exist on the San Carlos Indian Reservation. Many of these impoundments have been stocked and provide excellent fishing. Potential exists for increasing recreational fishing on these waters, through better access and increased management.

Limited potential exists for increasing the numbers of harvestable fish in San Carlos Reservoir through increased management.

An Appraisal of Fishing Waters

Key Elements	Multipliers					
	Warm Waters			Cold Waters		
	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	7	7	1	9	9
F. Water Areas						
Existing	3	8	24	3	6	18
Impoundment Sites	2	3	6	2	6	12
G. Fish Populations	2	6	12	2	6	12
H. Population --						
Size & Distribution	1	10	10			
I. Proximity to Cities	1	9	9	1	9	9
Totals			68			60

Possible Scores

Total Possible Scores	100	90
High Potential	71-100	71-90
Medium Potential	36- 70	36-70
Low Potential	0- 35	0-35

V. Golfing Courses

Golfing activities are in two categories: first, standard golfing with courses of 9 or 18 holes and the newly popular par-3 type; second, driving ranges and miniature golfing. Standard and par-3 golfing have substantial resource requirements. However, these requirements are not exceptional and are flexible enough so that they can be met in most local areas. On the other hand, golf driving ranges and miniature golfing enterprises are primarily user-oriented and have minimal resource demands. Thus, the key elements for golfing are largely related to population and location.

Golf courses were not rated by the appraisal team due to a lack of sufficient resident populations within the counties necessary to support these types of enterprises beyond the present level.

VI. Hunting Areas

Hunting areas received high scores because the quality of hunting on private and public lands in Graham and Greenlee Counties is good to outstanding. Quality hunting refers to hunting which provides a substantial quality of game with sufficient land available for hunting.

The hunting areas recreation category for the purpose of this evaluation is divided into three divisions: small game, big game and waterfowl. In these counties small game species include blue grouse, quail, mourning and

white-winged doves, band-tailed pigeon, cottontail rabbit and squirrel. Big game consists of mule and white-tailed deer, elk, black bear, javelina, and wild turkey. Waterfowl includes the ducks and geese. Recreation hunting areas are areas of land and water -- public or private -- where game is produced by habitat manipulation, through farming, forestry practices or game management methods. In Graham and Greenlee Counties small game and big game animals are produced and harvested on both private and public lands while waterfowl, essentially produced outside the counties, is harvested from both public and private lands and waters.

Hunting is regulated by state laws for resident species and by Federal and state laws for migrating species such as the waterfowl and doves. Hence, the potential for private development of hunting areas is influenced by these regulatory measures as well as by the elements considered below. Graham and Greenlee Counties are leading big game areas in Arizona with hunters annually taking substantial numbers of deer and elk. Although the present production is high, the extent of the habitat and the potential for increased development has resulted in a high potential rating of 110 for big game hunting areas in these counties. Small game also received a high potential score of 111, mostly because of the excellent populations of doves and quail. Cottontail rabbits occur in the counties in good number and provide for fine hunting.

Waterfowl numbers in the counties are not abundant; however, local concentrations of ducks and geese often occur in the fall on many of the ponds in and adjacent to agricultural areas and provide good hunting opportunities. Water development and habitat improvement could substantially improve conditions for ducks and geese.

An Appraisal of Hunting Areas

Key Elements	Multipliers								
	Small Game			Big Game			Waterfowl		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	9	9	1	9	9	1	9	9
E. Soils	1	9	9	1	9	9	1	9	9
F. Water Areas									
Existing								#	
Impoundment Sites								#	
G. Wildlife									
Habitat	5	9	45	5	9	45	5	5	25
Populations	3	9	27	3	9	27	3	5	15
H. Population									
Size and Distribution	2	3	6	2	10	20	1	5	5
Income Level									
I. Proximity to Cities	1	5	5						
J. Rural Ownership									
Pattern	1	10	10						
Totals			111			110			63

Possible Scores

Total Possible Score	140	120	110
High Potential	96-140	81-120	91-110
Medium Potential	51- 95	41- 80	46- 90
Low Potential	0- 50	0- 40	0- 45

#Existing water areas and water impoundment sites have dominant influence on habitat for waterfowl and for this reason are included there.

VII. Natural, Scenic and Historic Sites

Natural areas and scenic areas have much in common. Most natural areas of significance have attractive scenery. Many highly scenic areas have natural areas included. Nevertheless, the two concepts are quite different. Natural areas are valued for their aesthetic, scenic, wild and undisturbed character. Scenic areas are valued for their beauty. Both natural and scenic areas were inventoried specifically for these counties. Its potential for increased use was appraised. The amount of new servicing facilities that would be needed to accommodate the increases in use were made on the basis of increased local recreation participation in relation to the present level.

Historic areas are sites of past events that are of sufficient interest to attract people to learn of their country's heritage. In Graham and Greenlee Counties they center, for the most part, around a few Indian ruins. Other historic sites include mining towns, pioneer sites and similar places of interest.

Rockhounding, although not specifically rated, is an important activity in the two counties and attracts large numbers of people annually.

The existing undeveloped natural areas of the two counties have a high potential with a score of 125. Likewise, the undeveloped scenic areas received a high potential with a 126 score. The potential for historic areas was medium, scoring 64. Possible scores: 150, 150, and 100.

Natural areas in the counties were rated both as to their natural qualities and their contributions to scenic areas. The counties have one Wilderness Area (the Galiuro), and one Primitive Area (the Blue Range), as well as a number of wildland areas suitable for hiking, nature study, and other outdoor activities. Interesting vegetation, animal life, ecological and geological formations add much to the scenery of Graham and Greenlee Counties. Most of these areas present opportunities for public sector development.

An Appraisal of Natural, Scenic, and Historic Areas

Key Elements	Multipliers								
	Natural			Scenic			Historic		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
B. Scenery	4	9	36	5	9	45			
C. Natural Areas	6	9	54	4	9	36			
D. Historic Areas							5	5	25
G. Wildlife									
Habitat									
Populations	1	8	8						
H. Population --									
Size & Distribution	1	10	10	2	10	20	1	10	10
I. Proximity & Access									
Proximity	1	5	5	1	5	5	1	5	5
Access Roads	1	4	4	2	6	12			
Tourist Routes	1	8	8	1	8	8	3	8	24
Totals			125			126			64

	Possible Scores		
Total Possible Scores	150	150	100
High Potential	101-150	101-150	71-100
Medium Potential	51-100	51-100	36- 70
Low Potential	0- 50	0- 50	0- 35

VIII. Riding Stables

Horseback riding may be an activity in a recreation enterprise of a broader sort - such as a vacation farm or a group camp - or it may be the sole activity of an enterprise. The enterprise may include the resource area on which the riding is done or it may merely provide the services that enable riders to make use of a public area with bridle trails. Whether or not the riding area is on public or private land, the activity is closely resource-oriented, particularly to natural areas. Further, the enterprise is almost always privately operated, even when located on public land. We are concerned here with enterprises involved primarily with horseback riding.

Potential for further development of riding stable enterprises in the counties is high with a score of 94 out of a possible 120. This type of enterprise is limited in the counties at this time. It is felt that ranchers and operators with horses could profitably increase this activity, particularly in connection with hunting areas and pack trips, etc.

An Appraisal of Riding Stables

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	1	9	9
C. Natural Areas	3	9	27
H. Population -- Size & Distribution	2	8	16
Age	1	8	8
Income Level	2	8	16
I. Proximity to Cities	3	6	<u>18</u>
Totals			94

Possible Scores

Total Possible Score	120
High Potential	81-120
Medium Potential	41- 80
Low Potential	0- 40

IX. Shooting Preserves

Shooting of stocked, domestic game under conditions simulating natural hunting has been done in parts of the U.S. for several decades. Some of these shooting "preserves" have been club arrangements and some commercial. However, the interest in this type of recreation has grown rapidly since World War II and its potential still lies in the future.

Almost all of the game used on shooting preserves is of four species -- ring-necked pheasant, bobwhite quail, chukar partridge and mallard duck.

The operation is a combination of two or three activities: farming the land to grow crops and control vegetation; raising game (or purchasing it from a game farm); raising, training and handling hunting dogs. It is, therefore, a complicated and demanding kind of enterprise.

Shooting preserves were not rated for the counties due to the shortage of diversified irrigated farm land and a lack of sufficient clientele necessary for the success of this type of enterprise.

X. Vacation Ranches

A vacation ranch may offer home-cooked meals and country living or light housekeeping facilities rented on a weekly basis, for urban people. A vacation ranch is heavily resource-oriented and often places emphasis on a variety of ranching activities. It is strictly rural in its "atmosphere." Other recreation activities may be offered such as fishing, horseback riding, and games.

This type of recreation enterprise was not rated by the appraisal group because of the limited number of small family-size ranch units necessary to this type of operation.

XI. Water Sports Areas

Areas of land and water devoted primarily to swimming, sunbathing, boating, water-skiing and skin diving are among the most popular for recreation today.

Water sports areas were not rated for Graham and Greenlee Counties because of the lack of areas suitable for this type of recreational development. The appraisal team did, however, feel there was some potential for additional facilities at San Carlos Reservoir.

XII. Winter Sports Areas

Winter sports areas generally center around skiing. Additional activities that may be offered include tobogganing, ice skating, sledding, sleigh rides, snowmobile trips and dog sledding. All are dependent on the kind of winter weather prevalent in the area. Since skiing is the hub of the enterprise, this appraisal is based mainly on its potential.

Winter Sports Areas were not rated in Graham and Greenlee Counties because of the lack of sufficient areas suitable for development of this type of operation. It was judged that some potential does exist for development of a winter sports area on Mt. Graham located in central Graham County.

APPENDIX A

INVENTORY OF NATURAL, SCENIC AND HISTORIC AREAS FOR GRAHAM AND GREENLEE COUNTIES

Name or Identity of Area	Type	Location	Description
Coronado Trail	Scenic	Greenlee County	Scenic road said to follow the trail the Spanish explorer is believed to have taken through parts of the White Mountains.
Mount Graham	Scenic	Southern Graham County	Geologic phenomenon of a mountain rising from desert floor to height sufficient to support Alpine animal life and plants (10,713 feet altitude).
Eastern Arizona Museum	Historic	Pima, Graham County	Historical, pioneer and Indian material.
Point of Pines		Graham County, near village of Point of Pines, San Carlos Indian Reservation	
Sierra Bonita Ranch		Graham County, Southwest of Bonita	
White Mountains	Scenic	Northern Greenlee County and adjacent county	Scenic summer vacation area in a high, dense timberland interspersed with expanses of open meadows, blue lakes and clear streams.

APPENDIX B

INVENTORY OF LAKES AND IMPOUNDMENTS IN GRAHAM COUNTY USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facilities	Use Period (No. Mos.)
Cluff Ponds (3)		20	15	GF-BLM	A2, B2, B5, C, E	12
Frye Mesa		4	4	FS	A1	12
Riggs Flat		11	10	FS	A1, B1, B5, C, F, G, H, K, L	7
Roper		32	32	P	A2, B4, C, F, H, K, L	12
Armstrong	San Carlos	5	3.5		A2, B1, E, G	12
Ball	do.	4	1		A1, B1, E, G	9
Beef Corral	do.	4	1.5		A2, B1, E, G	12
Big Boni	do.	10	6		A2, B1, E, F, G	12
Big Bonita	do.	12	5		A2, B1, E, G	12
Bloody Basin	do.	20	5		A2, B1, E, G	9
Bobcat	do.	8	5		A2, B1, E, F, G	9
Bone	do.	4	2		A2, B1, E, G	12
Brushy	do.	6	3		A2, B1, E, G	12
B. S.	do.	3.5	2.5		A1, B1, E, G	9

APPENDIX B (Continued)

INVENTORY OF LAKES AND IMPOUNDMENTS IN GRAHAM COUNTY
USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facility	Use Period (No. Mos.)
Bull Spring	San Carlos	2.5	1.5		A1, B1, E, G	12
Burdett	do.	2	1		A1, B1, E, G	12
Chapman	do.	1.5	1		A1, B1, E, G	12
Cox Corral	do.	6.5	3.5		A1, B1, E, G	9
Deadman	do.	4	2		A1, B1, E, G	12
Deer	do.	3.5	2		A2, B1, E, G	9
Dons	do.	2	1		A1, B1, E, G	12
Double E	do.	2	1		A1, B1, E, G	12
Drift Fence	do.	4	2		A1, B1, E, G	12
Dry Lake	do.	150	60		A1, B1, E, G	9
Dry Prong	do.	2	1		A1, B1, E, G	9
East Deer	do.	3.5	2		A2, B1, E, G	9
East Salt Shed	do.	8	3		A1, B1, E, G	12
Elwood	do.	7	4.5		A1, B1, E, G	12
4 Mile	do.	6	4		A1, B1, E, G	12

APPENDIX B (Continued)

INVENTORY OF LAKES AND IMPOUNDMENTS IN GRAHAM COUNTY
USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facility	Use Period (No. Mos.)
Headquarters	San Carlos	2.5	1		A2, B1, E, G	12
Headquarters Charco	do.	1	1		A2, B1, E, G	12
Geronimo	do.	6	3.5		A1, B1, E, G	12
Green Mountain	do.	6	2		A1, B1, E, G	12
Juniper	do.	2.5	1		A2, B1, E, G	12
Lasley	do.	5.5	3.5		A1, B1, E, G	12
Loafer	do.	3.5	2		A1, B1, E, G	9
Lost Man	do.	2.5	1		A1, B1, E, G	12
Lower Junction	do.	3.5	2		A2, B1, E, G	12
Lower Windy	do.	3.5	2		A1, B1, E, G	12
Maggie Jones	do.	4.5	2		A1, B1, E, G	12
McDonald	do.	2	1.5		A1, B1, E, G	9
Midnight	do.	4.5	3		A1, B1, E, G	12
Night Trap	do.	2	1		A1, B1, E, G	12

APPENDIX B (Continued)

INVENTORY OF LAKES AND IMPOUNDMENTS IN GRAHAM COUNTY USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facilities	Use Period (No. Mos.)
9 Mile	San Carlos	2	1		Al, Bl, E, G	12
Oak Grove	do.	3	1.5		Al, Bl, E, G	12
Pickett Corral	do.	6.5	3.5		Al, Bl, E, G	12
Pima Gap	do.	2.5	1.5		Al, Bl, E, G	12
Pine Flat	do.	4	1		Al, Bl, E, G	12
Point of Pines	do.	2.5	1.5		Al, Bl, E, G	9
Pole Corral	do.	5	2.5		A2, E, F, G	9
Prairie	do.	4	1.5		A2, Bl, E, G	9
Rodeo	do.	2.5	1		A2, Bl, E, G	12
Salt	do.	3	1.5		A2, Bl, E, G	12
Salt Shed	do.	6	1.5		Al, Bl, E, G	9
Sawbuck	do.	4	2.5		Al, Bl, E, G	9
7 Mile	do.	5	1.5		Al, Bl, E, G	12
Shortline	do.	10	6		Al, Bl, E, G	12
Soldiers Hole	do.	8	3.5		Al, Bl, E, G	12

APPENDIX B (Continued)

INVENTORY OF LAKES AND IMPOUNDMENTS IN GRAHAM COUNTY USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facilities	Use Period (No. Mos.)
South Summit	San Carlos	2	1		A2, B1, E, G	12
Spur	do.	2.5	1.5		A2, B1, E, G	12
Steel Gate	do.	5	2		A2, B1, E, G	12
Stove	do.	6.5	3.5		A1, B1, E, G	12
Summit	do.	2	1		A2, B1, E, G	12
Tarantula	do.	2	1		A1, B1, E, G	12
Upper Clover	do.	3	1.5		A1, B1, E, G	12
Upper Windy	do.	3	2		A1, B1, E, G	12
Windy Bob	do.	2.5	1.5		A1, B1, E, G	12

Code for Recreation Activity and Facilities

A1 - Trout	}	Fishing	C - Swimming	J - Supplies
2 - Warm Water			D - Water Skiing	K - Drinking Water
B1 - No Motors	}	Boating	E - Duck Hunting	L - Rest Rooms
2 - Elec. Only			F - Picnic Tables	
3 - No Restrict.	}	Boats for Rent	G - Camping Units	
4 - Boats for Rent			H - Trailer Space	
5 - Launching Area			I - Lodging	

APPENDIX C

INVENTORY OF STREAMS IN GRAHAM AND GREENLEE COUNTIES USED FOR RECREATION PURPOSES

Name of Stream	Indian Reservation	Miles of Stream	Width Average Feet	Agency	Recreation Activity and Facilities	Use Period (No. Mos.)
Ash Creek		8	6		A1, C	10
Bear Creek		2	3		A1	8
Bear Wallow Creek		6	3		A1	7
Beaver Creek		5	3		A1	8
Black River	San Carlos	65	30		A1, A2, C, E	12
Blue River		15	10		A1	12
Campbell Blue River		13	4		A1	8
Chitty Creek		2	3		A1	7
Conklin Creek		6	2		A1	7
Deadman Creek		5	6		A1, C	10
Eagle Creek		15	6		A1	10
East Eagle Creek		6	3		A1	7
Fish Creek		9	3		A1	7
Foot Creek		4	3			7
Gila River		25	10		A2, C, E	12

APPENDIX C (Continued)

INVENTORY OF STREAMS IN GRAHAM AND GREENLEE COUNTIES USED FOR RECREATION PURPOSES

Name of Stream	Indian Reservation	Miles of Stream	Width Average Feet	Agency	Recreation Activity and Facilities	Use Period (No. Mcs.)
Grant Creek		10	4		A1, C	8
Hannigan Creek		4	3			7
Horton Creek		4	3			7
K P Creek		12	3		A1	10
Marijilda		2	5		A1, C	10
Post Creek		3	6		A1, C	10
Raspberry Creek		3	2			8
Rousensock		4	2			8
San Francisco River		35	15		A2	12
Stray Horse Creek		5	2			8
Thomas Creek (T. 4N.)		4	2			7
Willow Creek		4	2			7

(See following page for Codes for Recreation Activity and Facilities)

APPENDIX C (Continued)

INVENTORY OF STREAMS IN GRAHAM AND GREENLEE COUNTIES USED FOR RECREATION PURPOSES

Codes for Recreation Activity and Facilities

A1 - Trout	) Fishing	E - Duck Hunting
2 - Warm Water	)	F - Picnic Tables
B1 - No Motors	)	G - Camping Units
2 - Elec. Only	)	H - Trailer Space
3 - No Restrictions	) Boating	I - Lodging
4 - Boats for Rent	)	J - Supplies
5 - Launching Area	)	K - Drinking Water
C - Swimming		L - Rest Rooms
D - Water Skiing		

APPENDIX D

INVENTORY OF POTENTIAL IMPOUNDMENT SITES

GREENLEE COUNTY

Name	Stream	Dam Location		Surface Acres		Capacity Ac/Ft		Drainage Area Sq. Mi.	Land Status
		Sec.	Twp.	Rge.	Min.	Max.	Min.	Max.	
Blue Lake	Blue	11	3N	31E	80	100	1650	2600	350 FS & Pat.
Blue Lake	Blue	18	4N	32E	100	150	3000	6000	300 FS & Pat.
K. P. Lake	K. P. Creek	28	3N	29E	50	50	1220	1220	.8 FS

APPENDIX E

WILDLIFE AND WILDLIFE HABITAT GRAHAM AND GREENLEE COUNTIES

Species	Population Rating				Existing Habitat				Habitat Trend			Habitat Potential		
	I	II	III	IV	I	II	III	IV	Up	Down	Same	Good	Fair	Poor
Black bear			X					X			X			X
Rocky Mountain elk	X					X			X			X		
Mule deer		X				X				X		X		
White-tailed deer			X				X			X			X	
Javelina		X				X				X			X	
Turkey			X			X				X		X		
Blue grouse				X			X			X				X
Mearn's quail				X				X		X			X	
Gambel's quail						X				X		X		
Scaled quail			X				X		X				X	
Mourning dove		X				X				X		X		
White-winged dove			X				X			X			X	
Band-tailed pigeon			X				X			X			X	
Cottontail rabbit			X				X			X			X	

APPENDIX E (Continued)

WILDLIFE AND WILDLIFE HABITAT GRAHAM AND GREENLEE COUNTIES

Species	Population Rating				Existing Habitat				Habitat Trend			Habitat Potential						
	I		II		III		IV		I	II	III	IV	Up	Down	Same	Good	Fair	Poor
	I	II	III	IV	I	II	III	IV	I	II	III	IV	Up	Down	Same	Good	Fair	Poor
Fishes																		
Warm water			X								X				X		X	
Cold water		X								X					X		X	
Waterfowl			X								X				X		X	

I = Excellent
 II = Good
 III = Fair
 IV = Poor

APPENDIX F

NATIONAL FOREST RECREATION SITES IN GRAHAM AND GREENLEE COUNTIES

APACHE NATIONAL FOREST

Name of Site	Recreation Activities						Facilities			Season of Use	Approximate Elevation
	Developed Acres	Camping	Picnicking	Hunting	Fishing	Trailers Permitted	Drinking Water	Tables & Fireplaces			
P. S. Point	8	x	x	x	x			x		June - November	7,700
Buffalo Crossing		x	x	x	x	x		x		May - November	7,700
Upper Blue	1	x	x	x				x		April - December	6,400
Hannagan	3	x	x	x				x		May - November	8,700
Blue Crossing	1	x	x	x				x		April - December	6,500
K. P. Cienega	2	x	x	x	x			x		June - November	9,200
Upper Juan Miller	2	x	x	x	x			x		April - November	6,500
Strayhorse	2	x	x					x		May - November	8,200
Honeymoon	5	x	x	x	x			x		May - November	6,600
Lower Juan Miller	2	x	x	x	x	x	x	x		May - November	6,000

APPENDIX F (Continued)

NATIONAL FOREST RECREATION SITES IN GRAHAM AND GREENLEE COUNTIES

APACHE NATIONAL FOREST

Name of Site	Recreation Activities					Facilities				Season of Use	Approximate Elevation
	Developed Acres	Camping	Picnicking	Hunting	Fishing	Trailers Permitted	Drinking Water	Tables & Fireplaces			
Granville	3		x				x	x	Year-long	6,700	
Stockton Pass	4	x	x	x		x	x	x	April - November	5,600	
Marijilda			x					x	Year-long	4,300	
Noon Creek	1		x	x			x	x	April - November	5,300	
Wet Canyon	1		x	x			x	x	April - November	6,100	
Arcadia	7	x	x	x		x	x	x	April - November	6,700	
Shannon	3	x	x	x		x	x	x	April - October	8,900	
Hospital Flat	10	x	x	x		x	x	x	April - October	9,000	
Soldier Creek	6	x	x	x		x	x	x	April - October	9,300	
Riggs Flat	15	x	x	x	x	x	x	x	April - October	8,500	

RECREATIONAL USE OF SOILS

All soils can be used for recreation of some kind. Some uses have no soil limitations. Other uses have moderate to severe limitations. In fact, some soils are actually dangerous if used for certain recreational activities, such as camping. For example, the use of soil subject to flash flooding or landslides can lead to the loss of life and property.

Some of the soil qualities that affect recreational uses are as follows:

Flooding imposes severe limitations for use of soils for camp sites and recreation buildings. In Graham and Greenlee Counties flash floods are always a possibility. Soils that are wet all year, even if they are not flooded, are not suitable for campsites, recreational roads and trails, playgrounds and picnic areas. Soils that dry out slowly after rains present problems where intensive use is contemplated.

Droughty soils have limitations for many recreational uses. On such sites grass cover needed for playing fields is difficult to develop and maintain. Access roads may be excessively dusty.

The ability to support a load is important in many kinds of recreational activities. Some soils when wet fail to support structures such as access roads, trails and buildings.

Slope affects the use of soils for recreation. Nearly level, well-drained, moderately permeable soils free of coarse fragments have few or no limitations for use as playgrounds, camp sites, sites for recreational buildings, roads and trails. Soils with steep slopes often have severe limitations for most recreational uses and generally the slope should not exceed 8 percent. On the other hand, steeply sloping soils are essential for ski runs and are desirable for hiking areas, scenic values and vacation cottage sites "with a view."

Soil depth affects many uses. Soils underlain by bedrock at shallow depths cannot be leveled for playgrounds and campsites except at high cost. Roads, trails and basements are very difficult to construct on these soils. It is difficult to establish vegetation on soils shallow to clay or rock, thus making them poor locations for playing fields and other intensive use areas.

Surface soil texture is an important characteristic. High sand or clay content in the surface soils is undesirable for playgrounds, camp sites, or other uses that involve heavy foot traffic by people or horses. Soils high in clay become sticky when wet and do not dry out quickly after rains. On the other hand, loose sandy soils are undesirable as they are unstable when dry. Sandy loam and loam surface textured soils, with other characteristics being favorable, are the most desirable for recreational uses involving heavy use by people.

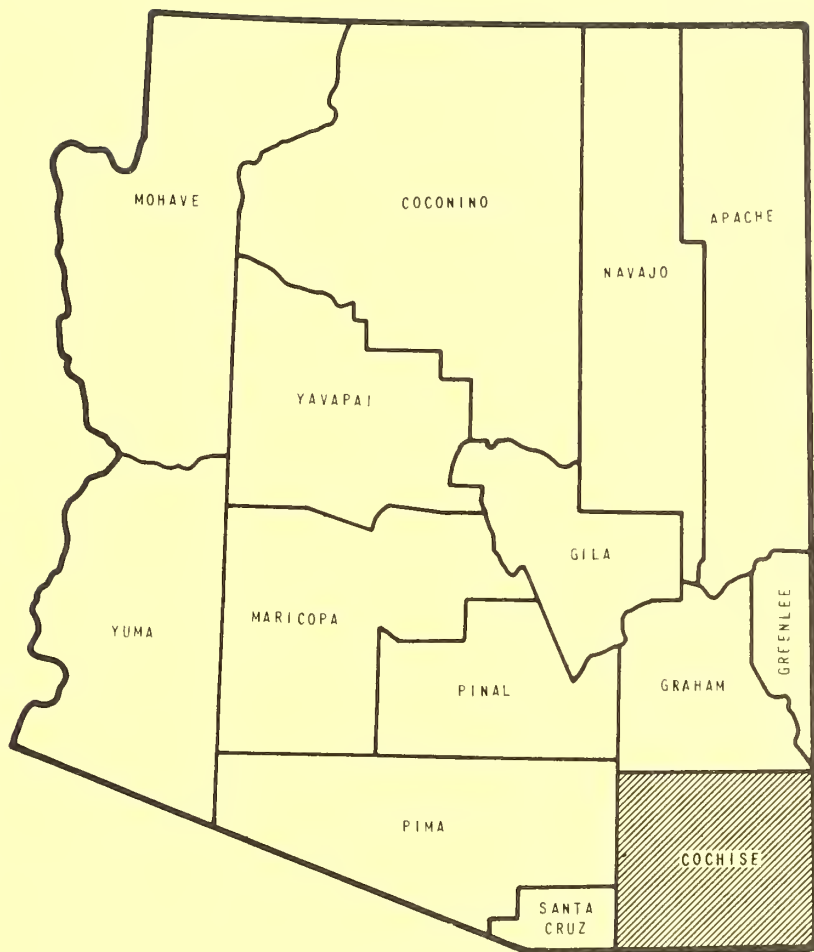
The presence of stones, rocks, cobbles or gravel limits the use of some soils for recreational uses. Very stony, stony, rocky or gravelly soils have severe to moderate limitations for use as camp sites and playgrounds. In some instances, it is feasible to remove the stones, thus eliminating the hazard. Rounded gravels present hazards on steeply sloping soils used for foot trails.

Sanitary facilities are essential for most modern recreational areas and septic tanks are often the only means of waste disposal. Some soils absorb septic tank effluent rapidly and other soils absorb it very slowly. Soils that are slowly permeable, poorly drained, shallow to rock, subject to flooding, or steeply sloping all have severe limitations for septic tank filter fields. In some cases where soils cannot handle the volume of waste involved, sewage lagoons can be used. These also are feasible only in soils that meet their special requirements.

Productive capacity of soils for vegetation of different kinds is closely related to the feasibility of many recreation enterprises. The ability of soils to grow sods that can take concentrated human traffic has already been noted as a factor in such areas as playgrounds and campsites. The development of such vegetative conservation practices as shade tree plantings, living fences, plant screens, and barriers to trespass is guided by soil limitations. The capacity of an area to produce economically harvestable crops of game is dependent, in part, on the productive ability of its soils.

Impounded waters reflect, in considerable measure, the kinds of soils beneath and above (on the watershed). Fertile soils, or soils capable of effective use of artificial fertilizers, generally make fertile waters. Fertile waters produce good fish crops which, with good management, produce good fishing. On the other hand, extremely acid soils associated with a proposed water impoundment may be a critical limitation to the development of good fishing.

Interpretations for specific recreational uses can best be made locally by those familiar with the soils and conditions in the area. Soils in an area are normally grouped into associations having similar characteristics according to their limitations for a specific recreational use.



PREFACE

The following report has been compiled as a result of appraising the potential for twelve kinds of outdoor recreation developments in Cochise County, Arizona. This follows an inventory of existing private recreational developments made during the summer of 1966.

This report considers the county as a whole, and no attempt has been made to appraise individual sites for recreational development.

The information contained in this report will be of help to groups and individuals in pointing out the potential for certain types of recreation enterprises and areas in Cochise County.

This report was made possible through the cooperative efforts of several agencies - - State and Federal. Special credit is given to:

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Summary of
APPRAISAL RESULTS

In assessing the recreation potential for Cochise County, it was found that many of the recreational areas and enterprises considered have a high potential for future development. In arriving at the type of rating for the different recreation developments, a series of elements was used: climate; scenery; natural areas; historic areas; soils; existing waters; potential impoundment sites for water; wildlife habitat and populations; populations of people dealing with size and distribution, age, occupation and income levels; proximity and access of local roads and tourist routes; rural ownership and land use patterns. While not all of these elements were important for each one of the recreational developments studied, many of them did have an application and were considered to be important in determining the potential of the enterprise studied.

- I. Vacation Cabins, Cottages and Homesites have a medium potential for Cochise County and, based on its resource appraisal, have a place in the future developments to meet the growing recreational needs of vacationers in the region.
- II. Camping Grounds, including vacation sites, pack trips and transient type, have a medium to high potential for further development in the County.
- III. Picnicking and Field Sports Areas were broken down into two categories. The first was game, play, and target areas, located near urbanized areas, which received a medium potential score for Cochise County. Second was picnicking which also received a medium potential appraisal.
- IV. Fishing Waters, as recreational developments, were broken down into warm and cold water categories. The warm water potential is medium, while the cold water potential rated low.
- V. Golf Courses included both standard and par-3, as well as the miniature courses and driving ranges. Golf courses were not rated by the appraisal group due to the lack of a sufficient resident population to support this type of enterprise beyond the present level.
- VI. Hunting Areas, as a type of development for Cochise County, were subdivided into three categories -- small game, big game, and waterfowl. In considering each of these separately, all three have a high potential for further development.

- VII. Natural, Scenic and Historic Areas as recreational developments have a high potential in this County.
- VIII. Riding Stables were not rated.
- IX. Shooting Preserves were not appraised by the group because of the lack of sufficient clientele nearby and the shortage of diversified irrigated farm land.
- X. Another type of vacation recreational development was that of Vacation Ranches, which had a high potential for the county.
- XI. Water Sports Areas within the county are limited. A medium potential for further development, based on construction of Charleston Dam, exists.
- XII. The last type of recreational development considered was that of Winter Sports Areas, and for the county this type of development was not appraised because of a lack of areas suitable for this type of enterprise.

From this brief summary, one can see that there are many different types of recreational developments that do have a potential for expansion within Cochise County. The analysis in this report did not consider market, need, and demand, nor did it consider economics. It appraised only the potential of the resources.

SUMMARY OF APPRAISALS OF POTENTIALS FOR OUTDOOR RECREATION

Date of Appraisal JANUARY 1968 in COCHISE COUNTY SOIL (& WATER) CONS. DIST. OF ARIZONA

KINDS OF RECREATION DEVELOPMENTS	SCORES FOR KEY ELEMENTS (RATINGS X MULTIPLIERS)															TOTAL SCORE	APPRAISAL (ADJECTIVE)	
	CLIMATE	SCENERY	NATURAL AREAS	HISTORIC AREAS	SOILS	WATER ARS.		WILD- LIFE	POPULA. PEOPLE		PROX. & ACCESS		RURAL OWNERSHIP & LAND USE PATTERN					
						EXISTING	IMPOUNDMNT SITES		HABITAT	POPULATIONS	SIZE & DISTRIBUTION	AGE & OCCUPATION		INCOME LEVELS	PROXIMITY			ACCESS	TOURIST ROUTES
I. VACATION CABINS, COTTAGES & HOMESITES	16	16	8	XX	2	1	15	XX	XX	9	XX	14	7	8	XX	XX	93	Medium
II. CAMPING	16	16	16	XX	5	4	10	XX	XX	XX	XX	XX	XX	8	XX	XX	75	Medium
-PACK TRIP	24	24	24	XX	XX	2	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	74	High
-TRANSIENT	8	8	XX	XX	5	XX	5	XX	XX	XX	XX	XX	XX	XX	25	XX	51	Medium
III. PICNIC & - GAME, PLAY, TARGET AREAS	8	XX	XX	XX	7	XX	XX	XX	XX	15	7	8	24	8	XX	XX	77	Medium
SPORTS AREAS	8	8	XX	XX	7	4	8	XX	XX	15	XX	6	24	8	XX	XX	88	Medium
-BICYCLING	8	XX	XX	XX	XX	15	16	XX	16	10	XX	XX	9	XX	XX	XX	74	High
-PICNICKING	8	XX	XX	XX	XX	6	2	XX	2	XX	5	XX	5	XX	XX	XX	28	Low
IV. FISHING WATERS	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
-COLD WATERS	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
V. GOLF COURSES	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
-STANDARD & PAR 3	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
VI. HUNTING AREAS	10	XX	XX	XX	9	XX	XX	35	21	20	XX	XX	5	XX	XX	9	109	High
-SMALL GAME	10	XX	XX	XX	9	XX	XX	35	21	20	XX	XX	XX	XX	XX	XX	95	High
-BIG GAME	10	XX	XX	XX	9	XX	XX	35	21	3	XX	12	XX	XX	XX	XX	91	High
-WATERFOWL	10	XX	XX	XX	9	XX	XX	35	21	10	XX	XX	8	8	8	XX	124	High
VII. NATURAL, SCENIC & - NATURAL AREAS	XX	32	48	XX	XX	XX	XX	XX	XX	10	XX	XX	8	8	8	XX	124	High
- SCENIC AREAS	XX	40	32	XX	XX	XX	XX	XX	XX	20	XX	XX	8	16	8	XX	124	High
HISTORIC AREAS - HISTORIC AREAS	XX	XX	XX	40	XX	XX	XX	XX	XX	10	XX	XX	8	XX	24	XX	82	High
VIII. RIDING-STABLES	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
IX. SHOOTING-PRESERVES	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
X. VACATION FARMS --FARMS--	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
& RANCHES -RANCHES	24	24	24	XX	XX	5	XX	XX	XX	XX	XX	XX	XX	XX	XX	18	95	High
XI. WATER SPORTS AREAS	8	8	XX	XX	XX	0	30	XX	XX	20	7	XX	8	XX	XX	XX	81	Medium
XII. WINTER-SPORTS-AREAS	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
	A.	B.	C.	D.	E.	F1	F2	G1	G2	H1	H2	H3	I1	I2	I.3	J.		

APPRAISING POTENTIALS FOR
TWELVE TYPES OF RECREATIONAL DEVELOPMENTS

Twelve types of outdoor recreational developments were studied and analyzed for Cochise County. Each is discussed in the following portion of this report.

I. Vacation Cabins, Cottages & Homesites

Vacation Cabins, Cottages and Homesites represent rural living space close to various recreation activities. This includes living quarters developed to rent to clients, vacation homes built to sell, and organized group "camps" (Boy Scouts, etc.) that use permanent buildings. Various recreational activities may be available in the vicinity of other developed areas, public and private.

Some of these developments may combine individual ownership of vacation homes with organized community services. Upkeep and maintenance of the properties, recreation activities, sources of supplies and personal services such as laundries may be provided. In some developments, privately-owned vacation homes are available for rent, furnished, when not in use by the owner.

This type of development has some potential for private enterprise in Cochise County. It provides employment in construction of living quarters, operation of camp developments and recreational facilities.

The potential for vacation cabins, cottages and homesites for Cochise County is medium with a score of 93 out of a possible 150. The evaluation of this potential using the key elements listed shows it to be worthy of future development.

An Appraisal of Vacation Cabins, Cottages & Homesites

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	2	8	16
B. Scenery	2	8	16
C. Natural Areas	1	8	8
E. Soils	1	2	2
F. Water			
Existing Water Areas	1	1	1
Impoundment Sites	3	5	15
H. Populations of People			
Size and Distribution	1	6	6
Income Levels	2	7	14
I. Proximity and Access			
Proximity	1	7	7
Access Roads	1	8	8
Totals			<u>93</u>

Possible Scores	
Total Possible Score	150
High Potential	101-150
Medium Potential	51-100
Low Potential	0- 50

II. Camping Grounds

Three different types of camping areas are recognized since there is considerable variation in key elements that apply. These are: vacation site camping grounds where the camper frequently remains several days to several weeks; pack camping, which involves an extensive mountain area; transient camping grounds, where the camper stops overnight while traveling to a vacation site. Sometimes a succession of stops at transient sites makes up a camping vacation. The potential for all three of these types of camping in Cochise County is good. The ratings were as follows:

Vacation Sites	- 75 out of a possible score of 120
Pack Trips	- 74 out of a possible score of 100
Transient	- 51 out of a possible score of 90

The vacation site campground is a pleasant area organized to accommodate families and others who are vacationing with tents, campers, or trailer facilities. While an enjoyable environment of attractive climate and scenery is the main idea, supplementary recreation activities are usually desired -- either on the premises or nearby. Most commonly associated with camping are boating, swimming, fishing, and nature study. Both public and private areas cater to the vacation camper. Public camping grounds are associated with distinctive natural areas, such as parks, and are usually limited to simple facilities and minimum services. Private campgrounds often cater to those desiring more elaborate or exclusive facilities and greater services. There will be a need for more campground facilities in the county as use by vacationers increases.

Potential for development of additional public campsites in the county is good, especially in the Coronado National Forest and Chiricahua National Monument.

Potential for developing pack trip camping exists within the National Forest and National Monuments as well as on private lands.

Transient campgrounds serve a quite different purpose from the others. The transient potentials are adjacent to or no more than a mile away from tourist routes which traverse desirable vacation areas. The potential for transient campgrounds is largely for private enterprise. The emphasis is on convenience and facilities, including automatic laundries, shower baths, sewage disposal connections, supply store and the like.

An Appraisal of Camping Grounds

Key Elements	Multipliers								
	Vacation Site			Pack Trip			Transient		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	2	8	16	3	8	24	1	8	8
B. Scenery	2	8	16	3	8	24	1	8	8
C. Natural Areas	2	8	16	3	8	24			
E. Soils	1	5	5				1	5	5
F. Water Areas									
Existing	2	2	4	1	2	2			
Water Impoundment Sites	2	5	10				1	5	5
I. Proximity and Access									
Access Roads	1	8	8						
Tourist Routes							5	5	25
Totals			75			74			51

Possible Scores

Total Possible Score	120	100	90
High Potential	81-120	71-100	61-90
Medium Potential	41- 80	36- 70	31-60
Low Potential	0- 40	0- 35	0-30

III. Picnic and Field Sports Areas

These are basically areas developed for concentrated play activities, other than golf, water sports, and winter sports. Some areas combine field and water sports, but generally an area is developed around one or the other group. Competitive games using ball diamonds, courts, tracks, and the like are one group of development. Others include the shooting sports with ranges for rifle, shotgun, pistol, and archery. Many areas may have special facilities for small children.

One activity included here requires separate consideration from the other although frequently associated with it. This is picnicking. Requirements are different and key elements vary somewhat.

Picnicking is more resource-oriented than field games. Frequently, picnicking areas are located in association with either field game areas or water sports areas. Most picnicking takes place on public areas - parks, forests, roadside rests, lake or creek vistas, etc.

The potential for picnicking and field sports areas in Cochise County is medium with scores of 88 out of a possible 130 and 77 out of a possible 120. The major limitation for increased development of these activities is the small population residing within the county.

An Appraisal of Picnic & Field Sports Areas

<u>Key Elements</u>	<u>Game, Play & Target Areas</u>			<u>Picnicking</u>		
	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	8	8	1	8	8
B. Scenery				1	8	8
E. Soils	1	7	7	1	7	7
F. Water Areas						
Existing				1	4	4
Water Impoundment Sites				1	8	8
H. Population -						
Size and Distribution	3	5	15	3	5	15
Age	1	7	7			
Income	2	4	8	1	6	6
I. Proximity and Access						
Proximity	3	8	24	3	8	24
Access Roads	1	8	8	1	8	8
Totals			77			88

Possible Scores

Total Possible Score	120	130
High Potential	81-120	91-130
Medium Potential	41- 80	46- 90
Low Potential	0- 40	0- 45

IV. Fishing Waters

Fishing waters as recreation include any type of water area with significant opportunities for catching fish by sport fishing methods. The fishing waters enterprise may include ownership, management, and control of the waters, plus services, or it may be limited to furnishing access and services at public waters.

While there are many variations according to the species of fish involved, the major division is between warm water and cold water fishing. "Cold water" fishing concerns various species of trout. "Warm water" fishing on lakes and streams includes all other fish.

Fishing water potentials are heavily dependent upon existing or developable waters and fishery management. All other elements are much less important.

With an abundance of suitable waters for fish lacking in Cochise County, the potential for additional development of cold and warm water fisheries

was judged to be only medium. This judgment was based primarily on the potential for increased management of farm and ranch ponds and construction of Charleston Dam.

An Appraisal of Fishing Waters

<u>Key Elements</u>	<u>Warm Waters</u>			<u>Cold Waters</u>		
	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	8	8	1	8	8
F. Water Areas						
Existing	3	5	15	3	2	6
Impoundment Sites	2	8	16	2	1	2
G. Fish Populations	2	8	16	2	1	2
H. Population --						
Size and Distribution	1	10	10			
Occupations				1	5	5
I. Proximity to Cities	1	9	9	1	5	5
Totals			74			28

Possible Scores

Total Possible Score	100
High Potential	71-100
Medium Potential	36- 70
Low Potential	0- 35

V. Golf Courses

Golfing activities are in two categories: first, standard golfing with courses of 9 or 18 holes and the newly popular par-3 type; second, driving ranges and miniature golfing. Standard and par-3 golfing have substantial resource requirements. However, these requirements are not exceptional and are flexible enough so that they can be met in most local areas. On the other hand, golf driving ranges and miniature golfing enterprises are primarily user-oriented and have minimal resource demands. Thus, the key elements for golfing are largely related to population and location.

Golf courses were not rated by the appraisal team due to a lack of sufficient resident populations within the county necessary to support this type of enterprise beyond the present level.

VI. Hunting Areas

Hunting areas received high scores because the quality of hunting on private and public lands in Cochise County is good to outstanding. Quality hunting refers to hunting which provides a substantial quality of game with sufficient land available for hunting.

The hunting areas recreation category for the purpose of this evaluation is divided into three divisions: small game, big game and waterfowl. In Cochise County small game species include quail, mourning and white-winged doves, band-tailed pigeon, cottontail rabbit and squirrel. Big game consists of mule and white-tailed deer, antelope, black bear, javelina, and wild turkey. Waterfowl includes the ducks and geese. Recreation hunting areas are areas of land and water -- public or private -- where game is produced by habitat manipulation, through farming, forestry practices or game management methods. In Cochise County small game and big game are produced and harvested on both private and public lands while waterfowl, essentially produced outside the county, is harvested mostly from private lands and waters.

Hunting is regulated by state laws for resident species and by Federal and state laws for migrating species such as the waterfowl and doves. Hence, the potential for private development of hunting areas is influenced by these regulatory measures as well as by the elements considered below. Cochise County is one of the leading small game areas in Arizona with hunters annually taking substantial numbers of doves and quail. Although the present production is high, the extent of the habitat and the potential for increased development has resulted in a high potential rating of 95 for big game hunting areas in Cochise County. Small game also received a high potential score of 109, mostly because of the excellent populations of doves and quail. Cottontail rabbits occur in the county in good numbers and provide for fine hunting.

Waterfowl numbers in the county are not abundant; however, local concentrations of ducks and geese do occur in the fall on many of the ponds in and adjacent to agricultural areas and provide good hunting opportunities. Water development and habitat improvement could substantially improve conditions for ducks and geese.

An Appraisal of Hunting Areas

Key Elements	Multipliers								
	Small Game			Big Game			Waterfowl		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
A. Climate	1	10	10	1	10	10	1	10	10
E. Soils	1	9	9	1	9	9	1	9	9
F. Water Areas									
Existing									
Impoundment Sites									
G. Wildlife	5	7	35	5	7	35	5	7	35
Populations	3	7	21	3	7	21	3	7	21
H. Population									
Size and Distribution	2	10	20	2	10	20	1	4	4
Income Level							2	6	12
I. Proximity to Cities	1	5	5						
J. Rural Ownership									
Pattern	1	9	9						
Totals			109			95			91

Possible Scores

Total Possible Score	140	120	130
High Potential	96-140	81-120	91-130
Medium Potential	51- 95	41- 80	46- 90
Low Potential	0- 50	0- 40	0- 45

VII. Natural, Scenic and Historic Sites

Natural areas and scenic areas have much in common. Most natural areas of significance have attractive scenery. Many highly scenic areas have natural areas included. Nevertheless, the two concepts are quite different. Natural areas are valued for their aesthetic, scenic, wild and undisturbed character. Scenic areas are valued for their beauty. Both natural and scenic areas are inventoried specifically for this county. Its potential for increased use was appraised. The amount of new servicing facilities that would be needed to accommodate the increases in use were considered. Some of these areas are not yet used appreciably; therefore, estimates were made on the basis of increased local recreation participation in relation to the present level.

Historic areas are sites of past events that are of sufficient interest to attract people to learn of their country's heritage. In Cochise County they center, for the most part, around a few Indian ruins. Other historic sites include mining towns, pioneer sites and similar places of interest.

Rockhounding, although not specifically rated, is an important activity in Cochise County and attracts large numbers of people annually.

The existing undeveloped natural areas of Cochise County have a high potential with a score of 124. Likewise, the undeveloped scenic areas received a high potential with a 124 score. The potential for historic areas was also high, scoring 82. Possible scores: 150, 150, and 100.

Natural areas in the county were rated both as to their natural qualities and their contribution to scenic areas. The county has one Wilderness Area in the Chiricahua Mountains and a number of wildland areas suitable for hiking, nature study, and other outdoor activities. Interesting vegetation, animal life, ecological and geological formations add much to the scenery. Most of these areas present opportunities for public sector development.

Wildlife populations are an attractive part of natural areas in the county and deserve special attention. The common birds, mammals, reptiles, amphibians, and insects in their natural surroundings are a fascinating part of many natural areas in the county. Cochise County, with its Chiricahua and Huachuca Mountains, is nationally recognized for its varied and interesting bird life, many species of which occur only in this area of the United States. Annually, many visitors from afar travel to Cochise County to observe and study its animal life.

An Appraisal of Natural, Scenic & Historic Areas

Key Elements	Multipliers								
	Natural			Scenic			Historic		
	(M)	(R)	(S)	(M)	(R)	(S)	(M)	(R)	(S)
B. Scenery	4	8	32	5	8	40			
C. Natural Areas	6	8	48	4	8	32			
D. Historic Areas							5	8	40
G. Wildlife									
Habitat		#							
Populations	1	10	10						
H. Population --									
Size and Distribu-									
tion	1	10	10	2	10	20	1	10	10
I. Proximity & Access									
Proximity	1	8	8	1	8	8	1	8	8
Access Roads	1	8	8	2	8	16			
Tourist Routes	1	8	8	1	8	8	3	8	24
Totals			124			124			82

Included in "Natural Areas"

	Possible Scores		
Total Possible Score	150	150	100
High Potential	101-150	101-150	71-100
Medium Potential	51-100	51-100	36- 70
Low Potential	0- 50	0- 50	0- 35

VIII. Riding Stables

Horseback riding may be an activity in a recreation enterprise of a broader sort - such as a vacation farm or a group camp - or it may be the sole activity of an enterprise. The enterprise may include the resource area on which the riding is done or it may merely provide the services that enable riders to make use of a public area with bridle trails. Whether or not the riding area is on public or private land, the activity is closely resource-oriented, particularly to natural areas. Further, the enterprise is almost always privately operated, even when located on public land. We are concerned here with enterprises involved primarily with horseback riding.

Riding stables were not rated by the team for the county due to the insufficient resident population necessary for the success of this type of enterprise.

IX. Shooting Preserves

Shooting of stocked, domestic game under conditions simulating natural hunting has been done in parts of the U. S. for several decades. Some of these shooting "preserves" have been club arrangements and some commercial. However, the interest in this type of recreation has grown rapidly since World War II and its potential still lies in the future.

Almost all of the game used on shooting preserves is of four species -- ring-necked pheasant, bobwhite quail, chukar partridge and mallard duck.

The operation is a combination of two or three activities: farming the land to grow crops and control vegetation; raising game (or purchasing it from a game farm); raising, training and handling hunting dogs. It is, therefore, a complicated and demanding kind of enterprise.

Shooting preserves were not rated for the county due to the shortage of diversified irrigated farm land and a lack of sufficient clientele necessary for the success of this type of enterprise.

X. Vacation Ranches

A vacation ranch may offer home-cooked meals and country living or light housekeeping facilities rented on a weekly basis, for urban people. A vacation ranch is heavily resource-oriented and often places emphasis on a variety of ranching activities. It is strictly rural in its "atmosphere". Other recreation activities may be offered such as fishing, horseback riding, and games.

The potential for Vacation Ranch enterprises in Cochise County is high with a 95 score out of a possible 130.

An Appraisal of Vacation Ranches

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	3	8	24
B. Scenery	3	8	24
C. Natural Areas	3	8	24
F. Water Areas			
Existing	1	5	5
J. Rural Ownership and Land Use Patterns	3	6	<u>18</u>
Total			95

Possible Scores

Total Possible Score	130
High Potential	91-130
Medium Potential	46- 90
Low Potential	0- 45

XI. Water Sports Areas

Areas of land and water devoted primarily to swimming, sunbathing, boating, water-skiing and skin diving are among the most popular for recreation today. Because of the limited number of suitable water areas in the county, especially lakes and impoundments, water sports areas received a medium potential rating, scoring only 81 out of a possible 130. This medium potential is dependent upon construction of Charleston Dam on the San Pedro River.

An Appraisal of Water Sports Areas

<u>Key Elements</u>	<u>Multiplier</u>	<u>Rating</u>	<u>Score</u>
A. Climate	1	8	8
B. Scenery	1	8	8
F. Water Areas			
Existing	4	0	0
Impoundment Sites	3	10	30
H. Population --			
Size and Distribution	2	10	20
Age and Occupation	1	7	7
I. Proximity to Cities	1	8	8
Total			81

Possible Scores

Total Possible Score	130
High Potential	91-130
Medium Potential	46- 90
Low Potential	0- 45

XII. Winter Sports Areas

Winter sports areas generally center around skiing. Additional Activities that may be offered include tobogganing, ice skating, sledding, sleigh rides, snowmobile trips and dog sledding. All are dependent on the kind of winter weather prevalent in the area. Since skiing is the hub of the enterprise, this appraisal is based mainly on its potential.

Winter Sports Areas were not rated in Cochise County because of the lack of areas suitable for development of this type of operation.

COCHISE COUNTY

Appendix A
INVENTORY OF NATURAL, SCENIC AND HISTORIC AREAS

Name or Identity of Area	Type	Location	Description
Chiricahua Mountains	Scenic	Eastern Cochise County	Isolated mountain range in Coronado National Forest. Excellent for bird study, flora and fauna revelations.
Chiricahua National Monument	Scenic	Northeastern Cochise	The "Wonderland of Rocks". Unusual balanced rocks and other strange formations created by erosive action of wind and water. Sometimes called Rhyolite Park.
84. Cochise Stronghold		Central Cochise County	The rugged mountain retreat of the colorful Apache Chief and his band of Indian raiders.
Coronado National Memorial	Scenic	Southwestern Cochise County	Wilderness area noted for rich plant and animal life, established to commemorate entry into Arizona by the early Spanish explorer.
Amerind Foundation, Inc.	Historic	Dragoon, Cochise County	Archaeology and ethnology of Arizona. Primarily a laboratory for advanced study of archaeological and ethnological problems of the area.

Appendix A (Cont'd.)
INVENTORY OF NATURAL, SCENIC AND HISTORIC AREAS

Name or Identity of Area	Type	Location	Description
Double Adobe		Cochise County, 12 miles northwest of Douglas on west bank of Whitewater Creek, 250 yards west of bridge on Double Adobe-Lowell Road.	
San Bernardino Ranch		About 17 miles east of Douglas, Cochise County	
Chiricahua National Monument Museum		Southeast corner of Arizona, in Cochise County	Nearly 17 square miles of fantastic rock formations, at elevations from 5,160 feet to 7,365 feet above sea level. Museum at visitors' center.
Coronado National Memorial	Historic	Near Hereford, Cochise County	Information about the Coronado Expedition (1540-1542) and information of the natural history of the area. Visitors' Center.
Fort Huachuca Historical Museum	Historic	Fort Huachuca, Cochise County	Depicts the story of the post, established in 1877 as Camp Huachuca to protect settlers of southwestern Arizona from raiding Apache Indians.

Appendix A (Cont'd.)
INVENTORY OF NATURAL, SCENIC AND HISTORIC AREAS

Name or Identity of Area	Type	Location	Description
Tombstone Courthouse State Historical Park	Historic	Tombstone, Cochise County	Historic Territorial Courthouse, once symbol for frontier justice museum displays various phases of Arizona's frontier days and Tombstone history, including Frontier Room, Mining Room, Gallows Yard, Domestic Room, Pioneer Room, Cattleman's Room, Old Law Library and early Court Room.

Code for Recreation Activity and Facilities

A1 - Trout	) Fishing	E - Duck Hunting
2 - Warm Water)		F - Picnic Tables
B1 - No Motors	)	G - Camping Units
2 - Elec. Only	)	H - Trailer Space
3 - No Restrict.	) Boating	I - Lodging
4 - Boats for Rent)		J - Supplies
5 - Launching Area)		K - Drinking Water
C - Swimming		L - Rest Rooms
D - Water Skiing		

Appendix B
INVENTORY OF LAKES AND IMPOUNDMENTS IN COCHISE COUNTY
USED FOR RECREATION PURPOSES

Name of Lake	Indian Reservation	Maximum Acres	Average Surface Acres	Land Status	Recreation Activity and Facilities	Use Period (No. Mos.)
Parker Canyon	Cochise	133	125	FS	A1, A2, B2, B4, B5, C E, F, G, H, I, J, K, L	12
Rucker	Cochise	3	2	FS	A1, B1, C, F, G, H, K, L	12

Appendix C
INVENTORY OF STREAMS IN COCHISE COUNTY USED FOR RECREATION PURPOSES

Name of Stream	Indian Reservation	Miles of Stream	Width Average Feet	Agency	Recreation Activity and Facilities	Use Period (No. Mos.)
Cave Creek		10	6	FS	A1, C, F, G, H, K, L	12
Rucker Creek		2	6	FS	C, F, G, H, K, L	12
Turkey Creek		5	6	FS	C, F, G, H, K, L	12

Code for Recreation Activity and Facilities

A1 - Trout	E - Duck Hunting
2 - Warm Water)	F - Picnic Tables
B1 - No Motors)	G - Camping Units
2 - Elec. Only)	H - Trailer Space
3 - No Restrict.)Boating	I - Lodging
4 - Boats for Rent)	J - Supplies
5 - Launching Area)	K - Drinking Water
C - Swimming	L - Rest Rooms
D - Water Skiing	

COCHISE COUNTY

Appendix D
INVENTORY OF POTENTIAL IMPOUNDMENT SITES

Name	Stream	Dam Location		Surface Ac.		Capacity		Drainage		
		Sec.	Twp.	Rge.	Min.	Max.	Ac/Ft	Area	Sq. Mi.	Land Status
Paradise Lake	East Turkey	7	17S	31E	25	40	300	800	40	Pat.
Babocomari Lake	San Pedro	9	20S	21E	59	152	940	3565	275	State
Babocomari Lake	San Pedro	17	20S	21E	317	710	5360	12820	283	St., Pat. BLM
Emerald Lake	San Pedro	12	20S	22E	92	92	1840	1840	31	BLM
Greenbush Draw Lake	San Pedro	6	24S	23E	160	160	2130	2130	46	Pat.
Leslie Canyon Lake	Leslie	21	21S	28E	120	200	2500	4000	85	State, Pat.
Pack Saddle Lake	Big Bend	19	21S	29E	35	62	700	1100	13	FS
Bear Cave Lake	Bear	13	24S	19E	150	212	3000	4800	14	FS, Pat.
Guadalupe Lake	Guadalupe	15	24S	32E	120	150	2400	3500	50	State, BLM
Douglas Lake					60	80				
Tombstone Lake					92					
San Simon Wildlife Area					10	40				

Appendix E
WILDLIFE AND WILDLIFE HABITAT - COCHISE COUNTY

Species	Population				Existing				Habitat Trend			Habitat Potential					
	Rating				Habitat				Up			Down			Same		
	I	II	III	IV	I	II	III	IV										Good	Fair	Poor
Antelope				X		X				X							
Bear			X				X					X			X		
Mule deer			X				X		X						X		
Whitetail deer			X				X				X						
Mountain lion		X				X					X						
Javelina		X				X					X						
Turkey				X			X			X					X		
Mearns quail		X				X					X						
Gambels quail		X				X					X				X		
Scaled quail		X					X				X						
Mourning dove		X							X		X						
White-winged dove		X					X			X	X						
Band-tailed pigeon			X				X				X				X		
Cottontail rabbit		X					X			X							
Squirrel			X				X									X	
Predators	X					X									X		
Warm water fisheries				X						X					X		
Cold water fisheries				X											X		

I = Excellent

II = Good

III = Fair

IV = Poor

Appendix F
NATIONAL FOREST RECREATION SITES IN COCHISE COUNTY
CORONADO NATIONAL FOREST

Name of Site	Recreation Activities							Facilities			Season of Use	Approximate Elevation
	Developed Acres	Camping	Picnicking	Hunting	Fishing	Trailers Permitted	Drinking Water	Tables & Benches	Fireplaces			
Cochise Stronghold	8	x	x	x		x	x	x	x		All year	4900
Rustler Park	28	x	x	x	x	x	x	x	x		May-September	8200
Pinery Canyon	3	x	x	x				x	x		April-November	6000
West Turkey Creek	4	x	x	x	x		x	x	x		May-October	5000
Herb Mart	8	x	x	x	x			x	x		April-October	5800
John Hands	5		x	x	x			x	x		April-October	5500
Stewart	4	x	x	x	x	x		x	x		April-November	4500
Sunny Flat		x	x	x	x	x		x	x		April-November	4600
Rucker Canyon												6500
Group Picnic			x	x				x	x		April-November	5500
Cypress Park	8	x	x	x	x		x	x	x		April-November	6000
Hermitage		x	x	x	x			x	x		April-November	6000
Bathtub	2	x	x	x	x				x		April-November	6500
Rucker Lake	6	x	x	x	x			x	x		April-November	6500
Rucker	4	x	x	x	x	x		x	x		April-November	6500
Parker Canyon		x	x	x	x			x	x		All year	5400

NATIONAL MONUMENT RECREATION SITES IN COCHISE COUNTY

Chiricahua National Monument	x	x				x	x	x		April-November	up to 7000
Coronado National Monument		x									up to 6800

Appendix G

RECREATIONAL USE OF SOILS

All soils can be used for recreation of some kind. Some uses have no soil limitations. Other uses have moderate to severe limitations. In fact, some soils are actually dangerous if used for certain recreational activities, such as camping. For example, the use of soil subject to flash flooding or landslides can lead to the loss of life and property.

Some of the soil qualities that affect recreational uses are as follows:

Flooding imposes severe limitations for use of soils for camp sites and recreation buildings. In Cochise County flash floods are always a possibility. Soils that are wet all year, even if they are not flooded, are not suitable for campsites, recreational roads and trails, playgrounds and picnic areas. Soils that dry out slowly after rains present problems where intensive use is contemplated.

Droughty soils have limitations for many recreational uses. On such sites, grass cover needed for playing fields is difficult to develop and maintain. Access roads may be excessively dusty.

The ability to support a load is important in many kinds of recreational activities. Some soils, when wet, fail to support structures such as access roads, trails and buildings.

Slope affects the use of soils for recreation. Nearly level, well-drained, moderately permeable soils free of coarse fragments have few or no limitations for use as playgrounds, camp sites, sites for recreational buildings, roads and trails. Soils with steep slopes often have severe limitations for most recreational uses and generally the slope should not exceed 8 percent. On the other hand, steeply sloping soils are essential for ski runs and are desirable for hiking areas, scenic values and vacation cottage sites "with a view".

Soil depth affects many uses. Soils underlain by bedrock at shallow depths cannot be leveled for playgrounds and camp sites except at high cost. Roads, trails and basements are very difficult to construct on these soils. It is difficult to establish vegetation on soils shallow to clay or rock, thus making them poor locations for playing fields and other intensive use areas.

Surface soil texture is an important characteristic. High sand or clay content in the surface soils is undesirable for playgrounds, camp sites, or other uses that involve heavy foot traffic by people or horses. Soils high in clay become sticky when wet and do not dry out quickly after rains. On the other hand, loose sandy soils are undesirable as they are unstable when dry. Sandy loam and loam surface textured soils with other characteristics being favorable are the most desirable for recreational uses involving heavy use by people.

The presence of stones, rocks, cobbles, or gravel limits the use of some soils for recreational uses. Very stony, stony, rocky or gravelly soils have severe to moderate limitations for use as camp sites and playgrounds. In some instances it is feasible to remove the stones, thus eliminating the hazard. Rounded gravels present hazards on steeply sloping soils used for foot trails.

Sanitary facilities are essential for most modern recreational areas and septic tanks are often the only means of waste disposal. Some soils absorb septic tank effluent rapidly and other soils absorb it very slowly. Soils that are slowly permeable, poorly-drained, shallow to rock, subject to flooding, or steeply sloping all have severe limitations for septic tank filter fields. In some cases where soils cannot handle the volume of waste involved, sewage lagoons can be used. These also are feasible only in soils that meet their special requirements.

Productive capacity of soils for vegetation of different kinds is closely related to the feasibility of many recreation enterprises. The ability of soils to grow sods that can take concentrated human traffic has already been noted as a factor in such areas as playgrounds and camp sites. The development of such vegetative conservation practices as shade tree plantings, living fences, plant screens, and barriers to trespass is guided by soil limitations. The capacity of an area to produce economically harvestable crops of game is dependent, in part, on the productive ability of its soils.

Impounded waters reflect, in considerable measure, the kinds of soils beneath and above (on the watershed). Fertile soils, or soils capable of effective use of artificial fertilizers, generally make fertile waters. Fertile waters produce good fish crops which, with good management, produce good fishing. On the other hand, extremely acid soils associated with a proposed water impoundment may be a critical limitation to the development of good fishing.

Interpretations for specific recreational uses can best be made locally by those familiar with the soils and conditions in the area. Soils in an area are normally grouped into associations having similar characteristics according to their limitations for a specific recreational use.

